Northern Ireland Assembly

Committee for Regional Development

OFFICIAL REPORT (Hansard)

Water and Sewerage Services Bill: City of Cardiff Council

4 November 2015

NORTHERN IRELAND ASSEMBLY

Committee for Regional Development

Water and Sewerage Services Bill: City of Cardiff Council

4 November 2015

Members present for all or part of the proceedings:
Mr Seán Lynch (Deputy Chairperson)
Mr Adrian Cochrane-Watson
Mr John Dallat
Mrs Brenda Hale

Witnesses:
Mr Ian Titherington City of Cardiff Council

The Deputy Chairperson (Mr Lynch): I welcome Ian Titherington to the table. We met Ian this morning. We had a valuable site meeting as well. He is a drainage engineer with Cardiff council. Ian, without further ado, make a presentation, and we will open it up to questions afterwards.

Mr Ian Titherington (City of Cardiff Council): Thank you, Chair. Apologies for not bringing along the presentation that I gave this morning. I did not want to repeat it, but apologies to those who did not get the presentation this morning.

My background is that I am lead officer for drainage in the City of Cardiff Council. I have been a civil engineer and drainage engineer for 25 years. In the first nine years, we did all the drainage design and maintenance work for Dŵr Cymru Welsh Water. Before that, work went to consultants. My background is in design and maintenance of drainage systems.

As I said this morning, I was the originator of the Greener Grangetown project design, which I came up with about four or five years ago. I have gone from building everything underground to trying to keep as much on the surface as I possibly can. My head has been turned, predominantly by Welsh Water and its attitudes to SuDS. I see rain water as an asset as much as a threat. As a civil engineer, I think that probably contradicts many of my colleagues in the industry. I come here as someone who often has to challenge old attitudes in engineering to drainage and to green infrastructure within an urban environment. It is often said that, in a council department, you will have one section putting in road humps and the other section taking them out or one section cutting trees down and the other one putting them up again. There is some uncomfortable truth in those statements, and, in my role, I am trying to develop the idea of surface water being used as an asset in an urban, as well as suburban, environment in the city of Cardiff. We currently have 340,000 residents, and, over the next 10 years, there are plans to build some 40,000 to 45,000 houses, which is a huge undertaking. It will apparently be the fastest-growing city in the UK percentage-wise. There will be a huge challenge in managing water. How we create space for the foul in the current public sewerage system, manage the watercourses and manage the run-off is absolutely critical in that development. Frankly, without SuDS, it is not possible to do that. SuDS are absolutely critical. That work cannot go on in Cardiff unless SuDS are used. I do not think that it is possible to do it with traditional engineering. Speaking

as someone who has spent 20 years doing that, I really do not think that it is feasible or cost-effective. I think that SuDS not only give a more cost-effective solution but give so many extra gains to the environment and the ecology and give social, economic and health gains.

One of the problems that I had with Greener Grangetown was the funding issue. The design and consultation funding was an equal split between us, Dŵr Cymru Welsh Water and Natural Resources Wales (NRW). We all went equally on the design and consultation costs. For the construction costs, I applied successfully for capital grants for the local authority. We had very significant funding from Welsh Water, and I managed to get the rest of the funding from what is called the landfill communities fund, which is basically a tax rebate off the back of landfill tax. In going to the Welsh Government, we found that the Ministers and the legislation are really positive about what we are trying to do. The problem that I found was that the funding elements are very siloed in how funding is distributed. When you apply for funding, even though the legislation might say one thing, the funding streams sometimes go in a different direction. From my perspective, as an engineer — I will be slightly controversial here — I would really welcome politicians in all Assemblies and Parliaments, when they come up with legislation, to say to themselves, "If we are to help with the funding, surely, when there are multifaceted gains in so many different directions, we should not have a silo mentality towards the funding". That is a challenge for politicians and for local government, because this certainly would not have been delivered without the partnership approach that we have had. I know that it is a very easy word to use, like "sustainability". We get a lot of those words in planning applications. It is not just about the funding from Welsh Water; it is about the expertise that it and Natural Resources Wales have. Combining the three areas of expertise, as well the funding, the knowledge and the various elements, has helped us to understand each other's priorities. We talked about trust among the local community, which is crucial. Trust between organisations is crucial as well, as is having officers who understand and trust each other and who understand each other's priorities. That has been absolutely critical in working and delivering on the scheme.

Where do we go with Greener Grangetown? It has been mentioned that the consultation element is king in terms of the local community. As I mentioned to some of you earlier, the consultation does not stop when we go on site. The consultation and the conversation continues with the local residents. When the principal contractor is being appointed, we will invite residents to meet that principal contractor, so that the contractor can meet the local community. When they are on site, there will be a liaison officer with the principal contractor so that we can have constant conversations, as that work is done, on how we manage the traffic, manage access and manage the vegetation and how we get across messages to the local residents that the vegetation will not be green on day one because it has to set in, is not there to look pretty and is there to do a job of work. It is a piece of engineering in itself. We also need to tell them how we want to manage the litter and how we want to ensure that people do not put their engine sumps inside the SuDS. We will advise them on how to manage their oil, manage their cars and manage their washing. They currently do all those sorts of things in a public highway, but they will have to revisit them in the context of how they manage their water. It is an education programme in itself. As a local authority, we are learning an awful lot about proper consultation on an engineering scheme. We are learning an awful lot about having real partnerships with other organisations to deliver, and I think that it is about understanding, as budgets tighten in the public sector, that we have to open our eyes to which organisations we can work with for the benefit of the same people. At the end of the day, the citizens who we serve in Cardiff are the same customers that Welsh Water serves. They are the same individuals that NRW represents and the same customers that private businesses work with, so we work very closely with private businesses.

These are the lessons that we are trying to learn from what is basically a SuDS design scheme in the middle of a city centre. It is not just about water; it is about so many more gains from the single issue of managing rainwater in an inner-city environment. As I said this morning, if we can retrofit modern SuDS in the most densely populated part of Wales, I would challenge any designer not to be able to put SuDS into any development anywhere in Wales or Cardiff. I challenge anyone on that because, if you can do it in that sort of area in some of the narrower streets that we are looking at, surely, on a blank canvas, whether it is brownfield or greenfield, SuDS can and should be included. In my opinion, that is the best way to manage surface water.

I will give you an example, and, again, I will probably get myself into trouble here. All planning applications in Cardiff with drainage implications come through me. In an application, you will normally have a lot of words with "sustainability" stuck in there, and you will have a lot of words like "we will aspire" to do this and to do that. That means that they are not going to do it but will aspire to do it. To "wish" to do it is another word that means that they are not going to do it. They also say that sustainable drainage is a rainwater harvesting tank that you can water your garden with, which it is not. It is very nice to have one, and it cuts your water bills down, but it is not sustainable drainage.

They do not commit themselves to the understanding and development of sustainable drainage, yet I find that, if I go in with developments at an early stage, designers really welcome the opportunity to design these sorts of things.

One thing that I was going to mention is controversial. When you drain a highway that is above a certain size, you are supposed to remove the contaminants. I cannot remember the exact square metreage. A traditional drainage engineer uses a class-1 interceptor, which is a tank 3 metres long and 1 metre wide, made of fibreglass and surrounded in concrete. The surface water goes in, and the silt is supposed to catch in the front. The hydrocarbons are supposed to be skimmed off, and there is an overflow. You get planning permission, and I cannot stop anyone getting planning permission. The reality is that practically none of these interceptors are maintained. Within six to 12 months, they are full of silt and do not work, and the polluted water goes straight through, but they have planning permission. If you have a SuDS on the surface where you have the vegetation and soil and where it is managed and adopted, if there is a problem, you can see it. There is no hiding from it.

I believe that a properly-managed, green-surface SuDS is a far better way of managing highway drainage, because I think that that is maintainable, manageable and visible. You have all the environmental gains, and you cannot hide it away. You cannot not maintain it and get away with it. It is a real opportunity to be honest about dealing with surface water properly; whereas, frankly, with a lot of applications and developments, these interceptors are not maintained, and they are there just to get planning permission. They do not do the job. They are not maintained, and, frankly, after six months, they are completely useless. That is not something that I should perhaps say as a drainage engineer, but that is the reality of the situation and is another reason why I think that managing the surface water on the surface, where you have the space to do it, is advantageous. That is a little bit of controversy there.

I can go on about the presentation that I did this morning. Do you want me to talk about that a little bit?

The Deputy Chairperson (Mr Lynch): No, I think that John wanted to ask a question.

Mr Dallat: I remember a good bit of what you said this morning. The most remarkable statement that you made was on your own reincarnation from engineer to someone who is totally sold on SuDS. Assuming that we progress this back at home, is there a sufficient number of people like you, described as engineers or whatever, who assist developers to design their housing and so on? Is there a sufficient number of them who have your skills to do that?

Mr Titherington: There are in certain consultancies. For instance, we had an engineer from the Arup Northern Ireland office helping us to meet the deadlines for Greener Grangetown. I would say that in certain consultancies there definitely is the expertise. Whether or not we still have the expertise in local authorities is more challenging, because after the water contracts were taken off local authorities, and after the recent financial squeeze on local authorities, a lot of the expertise went. There is certainly expertise in the water authority and in some local authorities. There are consultants based in Northern Ireland, as well as in Wales, who do have that local expertise; but, worryingly, there is a lack of expertise in local authorities because of the running down of engineering services in recent years.

Mr Dallat: I tend to agree with you. I was told recently that the 11 new councils in Northern Ireland, which have existed in shadow and full form for nearly two years, have only just appointed someone to lead on SuDS. I spoke to him recently, and he laughed; but we are on camera, and I will say no more.

It is very comforting to hear that the skills base is there. The only other obstacle that I can think of now is the developers themselves, who are squeezed to the last penny to build a house at a price that they can sell it at. Is the information available, and is it convincing enough, to tell them that SuDS are probably cheaper and better than conventional pipes or whatever was used?

Mr Titherington: I find that some are convinced and some remain to be convinced. That is my experience. All the major UK housebuilders are currently lining up very large sites of from 1,000 to 7,000 houses in Cardiff. Some have bought into the idea and have understood at pre-application stage that, if SuDS is committed to at an early stage, housing density is not lost. When the placing of the green and blue infrastructure in the development is resolved at an early stage, SuDS is wholly manageable. The problem arises with the one or two companies that have not seen the light, bury drainage on instinct and are then asked by us to revisit their designs. I think that most designers are

open to the idea and most developers — not all. It is about getting it in at pre-outline stage. If things have gone beyond that, it is very hard to change the designs.

I mentioned that in Cardiff we have what is called a green infrastructure group. We have people from the parks department, drainage department, right of way department — all those areas — who look, say, at the green space potentially created in a development of more than 100 houses on a brownfield or a greenfield site and try to decide how best to manage that space through drainage, open air space, and play space. We would go to the developer with a package, and by doing that, it is far easier for them to fit SuDS into their design. It allows them to keep the housing density, for their profits, but also to build SuDS infrastructure into their footprint.

I cannot overstate how important it is to get in at an early stage. I have yet to see any site design in which SuDS cannot be included, if it is done at an early stage, because you have got a blank footprint. Even with the geology, the ground conditions, or with contaminated soil, it is doable.

Mr Dallat: Finally, you said in your presentation that a lot of the statements in planning applications are aspirational. They say, "We would like to do all that". You said it much better than I can. Where then do you have the power? Does the legislation allow you to reject planning applications if they are not definite in what they are going to do?

Mr Titherington: If I write a drainage condition into a planning application, I have the power to stop a development going ahead. If they ignore SuDS and decided to put all the surface water into one of Fergus's Welsh Water sewers — apart from Fergus having a cardiac arrest if they tried it — I would write into the condition a list of priorities on SuDS in standard phrases. If they did not meet those, the condition would not be discharged. If it was a company, I would try to meet, without firing emails back and forth. I would say, "Come into the office. Let me explain to you what we want as a local authority. Go away and come back with the design, to save you time, because you need to get these things built. I will hold it up, which will cost you money, if you do not listen to our proposals. I will sit down with you and come up with solutions. I am a drainage engineer. I will sit down with you, and we will come up with solutions". I do not want to hold development up; I just want to make sure that we have decent sustainable drainage development. Generally, developers welcome that. They welcome the fact that, rather than just saying no, we say, "No, but come in and let us come up with a solution". That relationship with developers is important. I suppose that it is lucky that I am a drainage engineer and can do that. I think that having that understanding of what they are trying to achieve, and them having respect for what I am trying to achieve, means that generally, nine times out of 10, we come up with a solution.

Mr Dallat: Chair, I think that that is very useful. Thank you very much.

Mrs Hale: My question is supplementary to John's question about legislation. In Northern Ireland, we have lots of private developers who are building social housing. I was just wondering whether there is any legal obligation on a developer who is building social housing to use SuDS rather than the interceptors. Can you enforce that legal obligation? Will you just advise them and say that you will not maybe adopt the roads quicker? How does that work for social housing rather than private housing?

Mr Titherington: I would not treat social housing any differently from private housing with regard to SuDS. It should not be. There might be a greater density, but the opportunity to put green infrastructure into social housing areas is just as significant. Some people might argue that it is more significant.

As for planning law, they could, if they chose to, go down the subsurface construction route, but I would say that it was against the council's policy for planning and development. We could hold developments up if we were not happy with what they were proposing. Those delays would possibly be more costly to them than looking at SuDS options. They would need to do a cost-benefit analysis of whether they accept our ideas and proposals for building SuDS into a design or want things to be delayed and look at what is the greater cost to them. Generally, we find that they are quite amenable to looking at SuDS.

There was one development on a brownfield site where I did not see the design until a very late stage. They had put all the SuDS under the highway, to which I said that we would not adopt the highway because it was in boxes, not in concrete. I said, "Well, we are not going to adopt that", so they put the SuDS boxes offline next to the highway in a big green verge between the highway and the road. I

said, "Well, we might adopt that if you can show me how you are going to maintain it." They still have not done that, so we are still not going to adopt it. In reality, if they had actually put a ditch at that big green verge and managed it, it would have done exactly the same as the boxes did in the first place. They did not think about the design. They thought, "Well, let's get as many houses as we can into the site." They did not talk to us, and they did not think about what they could have done. They have ended up with the same density but a far more expensive drainage design than they would have had if they had kept it on the surface. There is this idea or mentality that SuDS is more expensive. It is not more expensive. From my perspective, I would rather buy a house with a managed green environment already there than one in a building site, which is often the case. Developers need to see it differently. I think that the profits are there to be made, not to be lost, if the designers are there to do the work for them.

Mrs Hale: Are you seeing any evidence of this coming through in planning applications?

Mr Titherington: We have a large development called Plasdŵr, which translates as "wet place", more or less — I hope that there are no Welsh speakers here — in north-west Cardiff. It is a greenfield site. It is a hill as far as Cardiff is concerned. Being from west Wales, I personally think that Cardiff is rather flat. They call it a hill. There is a lot of gradient, water run-off and attenuation ponds. I talked to them about creating a feature coming into the attenuation ponds. I said, "Don't just stick an outfall in there with a concrete wall — do something." What they have done is created cascades of stones coming into it, so there is a cascade feature of rainwater. Every time that it rains heavily, I want to see all the locals go down there so that they can watch the rainwater going into the attenuation pond. Let us think about water being a visible feature when it rains, not just a buried feature. That is built into that development; understanding the relationship between the community and the rainwater. There is a change of attitude from some designers. Certainly almost all the large developments in Cardiff have surface water attenuation ponds, ditches and rivulets as part of the scheme. There are very few culverts. Very few culverts are being put into Cardiff at the moment.

Mrs Hale: I have just one final question, with your permission, Chair. It is about those guys and girls who are at university studying civil engineering and town planning. Is there a SuDS module? Are they being taught this as they are coming through, or are they coming out of university with the same sort of courses that you may have set 10 or 15 years ago when you left university?

Mr Titherington: The Susdrain CIRIA SuDS guides on the website are very good examples. As new examples in the UK are being developed, they are uploaded to that site. Those are some of the best examples. I probably should not comment on the UK legislation, because I think that the Water Act was a missed opportunity. It might encourage some developers to think that, if SuDS is seen as more expensive, they do not have to do it. I think that seeing SuDS as more expensive is tripping over the first hurdle, because it is not. If you have a decent design, it is not more expensive; it is cheaper. If it is better managed, you create a better development. We need to look beyond that side of things to see what they can gain. We need to sit down as a planning authority with them at an early stage to tell them to make the development the best that it can be, using SuDS in a constructive manner and using the green/blue corridor, as it is in a large development, in a constructive manner to make their development a better site. That will help them to sell their houses quicker and get their capital back. We try to do it in a constructive way rather than being negative and saying, "Thou shall not pass". Let us do it in a different way, working together to make it work. Generally, we get a very positive response from the developers.

The Deputy Chairperson (Mr Lynch): I have one final question, Ian. Grangetown does not flood, yet you chose that site to have green infrastructure. That was interesting.

Mr Titherington: It was because of the sewer design, the ground levels and the proximity to a watercourse that spends most of its time sitting at 4·5 metres above ordnance datum because of the bay impoundment. It was the best place to try the system out. I got a couple of designers from other organisations to look at it, and they all said that that was the best place to do it. It is to do with the street design, the drainage design and the land levels. I had to pick the most suitable place to do it, which happened to be that place, the argument being that if we can deliver that, I already had three or four other areas in mind where we can copy the model and, hopefully, achieve it because we have learned the lessons. What people have learned from these developments is that, once they are finished and they are done properly, people will ask, "Why can't we have that?". I am already getting that from some people in the area, but they live too far from the river. It is about trying to explain why we have chosen that area and looking at the gains and, hopefully, people will think of rainwater in a different way.

The Deputy Chairperson (Mr Lynch): Will you wait until it is finished before you move on to the next scheme?

Mr Titherington: I suspect so, yes.

Mr Cochrane-Watson: Would it be possible to get Ian's presentation from this morning emailed across or in hard copy?

Mr Titherington: I would be happy to give you hard copies. I will forward you the PDF version as well.

Mr Cochrane-Watson: Thank you, Ian; I was lost and nobody else cared about me, and you got me over here.

Mr Titherington: It was my pleasure.

The Deputy Chairperson (Mr Lynch): I want to thank you for your evidence. What is coming through from all the presentations is that SuDS is critical. It is the way forward if we are to manage surface water. You said something very interesting, which was that SuDS is not more expensive. The first thing that developers will look for is their profit margin.

Mr Dallat: The cost of pumping water miles away, for it simply to return anyway, was an important factor. I wonder whether Paul can remind us how much NIW spends on electricity.

The Committee Clerk: It is about £34 million or £35 million a year. It is NIW's largest bill.

The Deputy Chairperson (Mr Lynch): On behalf of the Committee, I thank you for giving evidence today and particularly for your site meeting this morning. I have a small gift for you from the Committee. We may come back and see the finished product, if Paul has the budget.

Mr Titherington: Thank you.

The Deputy Chairperson (Mr Lynch): On behalf of the Committee, I thank the Presiding Officer of the National Assembly for Wales for facilitating us today. It has been a fantastic facility, and it has been a good visit. I thank all the staff here as well.