

**TITLE:** Wellhouse Crescent Flooding  
Surface Water Management Opportunities Workshop 3

**LOCATION:** Microsoft Teams Meeting (due to Covid-19 Pandemic)

**DATE:** Wednesday 17<sup>th</sup> November 2021 Time: 10.00am- 12.30pm

# Notes of Meeting

## Present:

Alex Hogg (AH)	Wellhouse Housing Association Assets & Maintenance Manager
Maureen Morris (MMo)	Wellhouse Housing Association Chair
David Faichney (DFa)	Scottish Government Policy Development Manager
Brendan Frankgate (BF)	Glasgow City Council Transformation Group Manager
David Frew (DFr)	Glasgow City Council Roads and Drainage
David Hay (DH)	Glasgow City Council Engineering Group Manager
James Murray (JM)	Glasgow City Council MGSDP Manager
Mic Ralph (MR)	Glasgow City Council Transport and Planning Manager
Cath Scott (CS)	Glasgow City Council Natural Environment Officer
Rachel Howlett (RH)	Green Action Trust Raingardens Development Officer
Neil Beveridge (NB)	Scottish Water Value & Benefits Team
Kieran Downey (KD)	Scottish Water Flooding Manager
Martin Hagen (MH)	Scottish Water Intervention Manager
Arshid Karim (AK)	Scottish Water Catchment Planner
Annelies McMillan (AM)	Scottish Water Flood Risk Management Strategic Planner
Grant Vanson (GV)	Scottish Water Flood Risk Management Team Lead
Stephen Friend (SF)	M2 Catchment Planner
Fraser Hogg (FH)	M2 Civil Engineer
Lan Lyu (LL)	M2 Landscape Architect
Richard McGowan (RMcG)	M2 Project Principal
Michael McWhinnie (MMcW)	M2 Design Lead
Wayne Potter (WP)	M2 Senior Hydraulic Modeller
Mairi Shaw (MS)	M2 Civil Engineer

<b>Introduction</b>			
<p>NB welcomed everyone to the meeting and recapped the overall objective to progress Surface Water Management (SWM) opportunities to reduce flooding around Wellhouse Crescent.</p> <p>MR noted he would not be able to stay for the whole meeting but if there were any actions he would pick these up after the meeting.</p>			
<b>Review of Actions from previous meeting on 14<sup>th</sup> May 2021</b>			
MM provided an update on actions raised at the previous meeting.			
	<b>Action</b>	<b>Owner</b>	<b>Update</b>
1	Update engagement matrix	MM	MM has updated matrix.
2	Quick win opportunities for surface water management to focus on Wellhouse west area. M2 to progress discussions with Wellhouse Housing Association (WHA).	MM/MWM	MM noted that there are slides in today's presentation where this will be discussed in more detail.
3	Langbar SSO – Detriment impact at Barlanark park to be investigated to understand impact on adjacent properties. Understand the flooding impact and how long flooding will remain. Recommendations for interventions to be identified.	MM/AK/JM	MM noted that detriment has been investigated and details included in today's slides where this will be discussed in more detail. Details on recommended interventions will also be discussed.
4	Camlachie Burn – Opportunities for Surface Water Management Plan in woodland area at Barlanark Park (note env. Constraints e.g. badger set). Recommendations for interventions to be identified	MM/AK/JM	Discussions around Barlanark Park are ongoing.
5	Discussion on potential for using roads infrastructure for interventions at Newhills Road. RMit to meet with MR to discuss.	RMit/MR	<p>Completed. Discussions have taken place between M2 and GCC for Newhills Road and requirements are being incorporated into the design.</p> <p>CS flagged up that there are water voles in this area and this should also be taken on board as part of the design.</p> <p>BF queried whether all legal guidance regarding runoff onto public highways has been taken into account.</p> <p>AK confirmed that legal guidance has been incorporated into the design. AK also confirmed that project team were aware of the presence of water voles and that this would be taken into account.</p>

6	Update and distribute meeting plan for future meetings	MM	To be agreed with Stakeholders following meeting.
7	In parallel to the other actions, develop a communication strategy and associated material (maximising use of existing info) for engaging with communities / customers / tenants with regard to the SWM measures being considered.	SF/MM/AK /MH/JM/HA's	Scottish Water's Communications Team recommend rolling out wider communications once plans are further developed so we are able to give better detail. In the interim Wellhouse Housing Association have shared some information in the summer newsletter ( <a href="https://wellhouseha.org.uk/newsletter-summer-2021.pdf">https://wellhouseha.org.uk/newsletter-summer-2021.pdf</a> ) to give residents an idea of what is being considered. It is planned to share some further details around rain garden planters at the Hub in the winter newsletter.
8	In parallel to the other actions, agree a number of pilot locations for SWM Raingardens / SUDS Planters with the Housing Associations. Design and Implement.	SF/MM/AK /MH/HA's	2No demonstration rain garden planters are going to be located at the front entrance of the Hub by SuDSPlanter Ltd. These are due to be installed before Christmas 2021.
<b>Wellhouse West Area</b>			
<b>Opportunities for Tenement Flats</b>			

Queenslie SuDS

Newhills Road Separation

Wellhouse East SuDS

Wellhouse West SuDS

Langbar SSO Removal

**(A) Buried channel to convey the downpipe runoff to the adjacent linear raingarden**

- Preferred to have conveyance feature buried as a Health & Safety precaution to prevent any overland ice formation during the winter
- Buried channels at an angle to allow flow to be gravity fed into the raingardens

**(B) Linear Raingardens**

As well as attenuating and utilising the roof runoff, the raingardens can capture surface water runoff from both the surrounding permeable and impermeable surfaces.

**(D) Small Scale Green Roof Retrofit**

- High Voltage electrical power house with flat roof

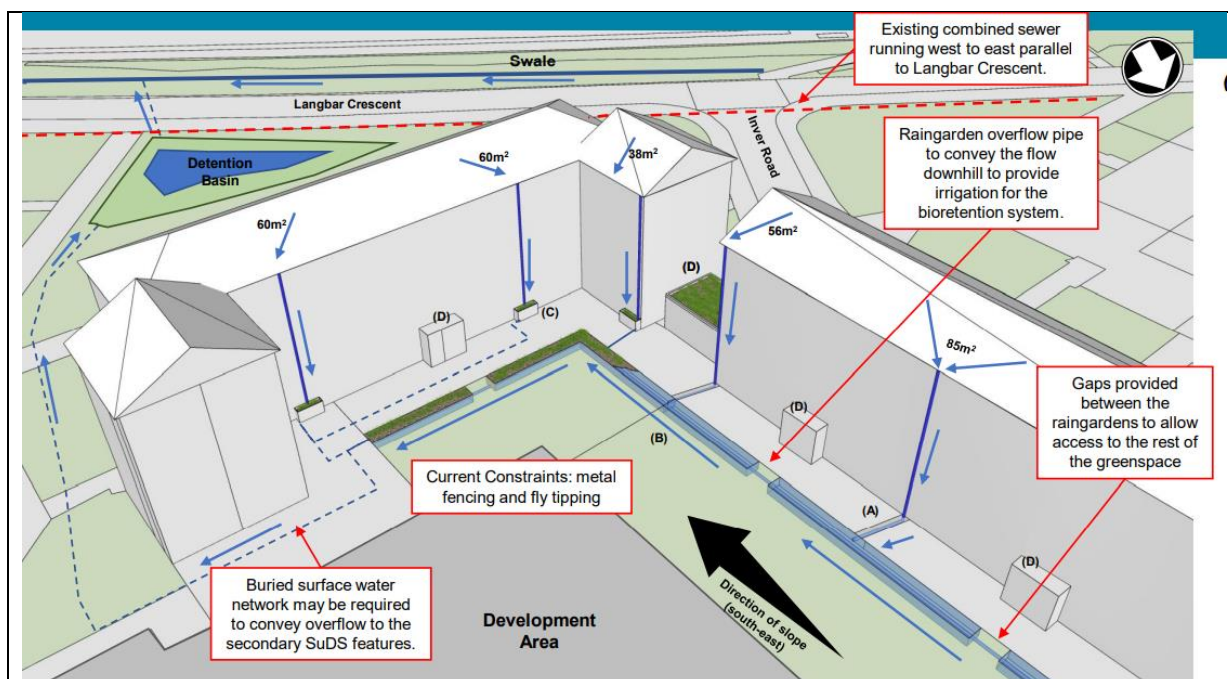
2021 Green Roof Shelter

**(C) Raised Rainwater Planter**

- Any downpipes which cannot be connected into a larger bioretention features can discharge roof runoff directly into a raised SuDS Planter.

Overflow outlets

SuDSPlanter



MS talked through ideas for the Wellhouse West area and potential for quick wins as a standard building type is present throughout with plenty of available spaces. The back courts of tenement flats could easily have rain garden planters fitted as the downpipes are accessible with spaces for planters. Also potential to create buried channels to create a surface water system so that the planter could be disconnected from the combined sewer network. Possible use of small green roofs on porches and electrical outbuilding. Also back courts could be developed as community rain gardens. Front downpipes in some buildings currently run inside balconies. May be possible to reroute these down front of building and into a rain garden planter.

DH noted that a new below ground surface water network in the back courts was being considered to reduce winter ice risk. DH noted that based on experience elsewhere this should not be used as a factor in decision making as unlikely to have heavy rain utilising above ground conveyance routes at same time as heavy frost.

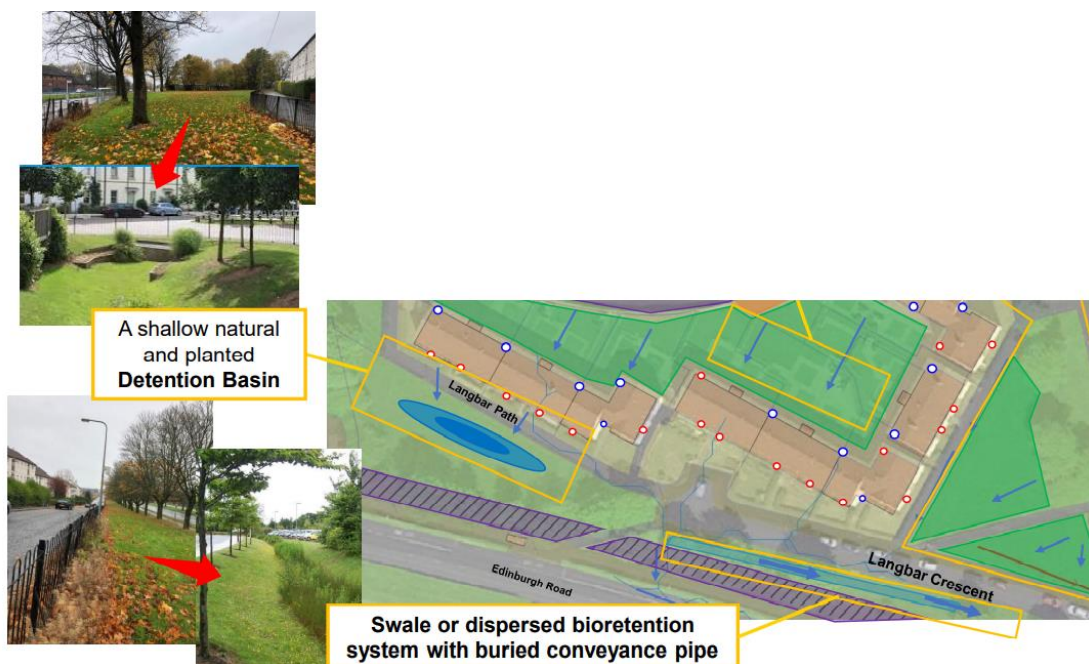
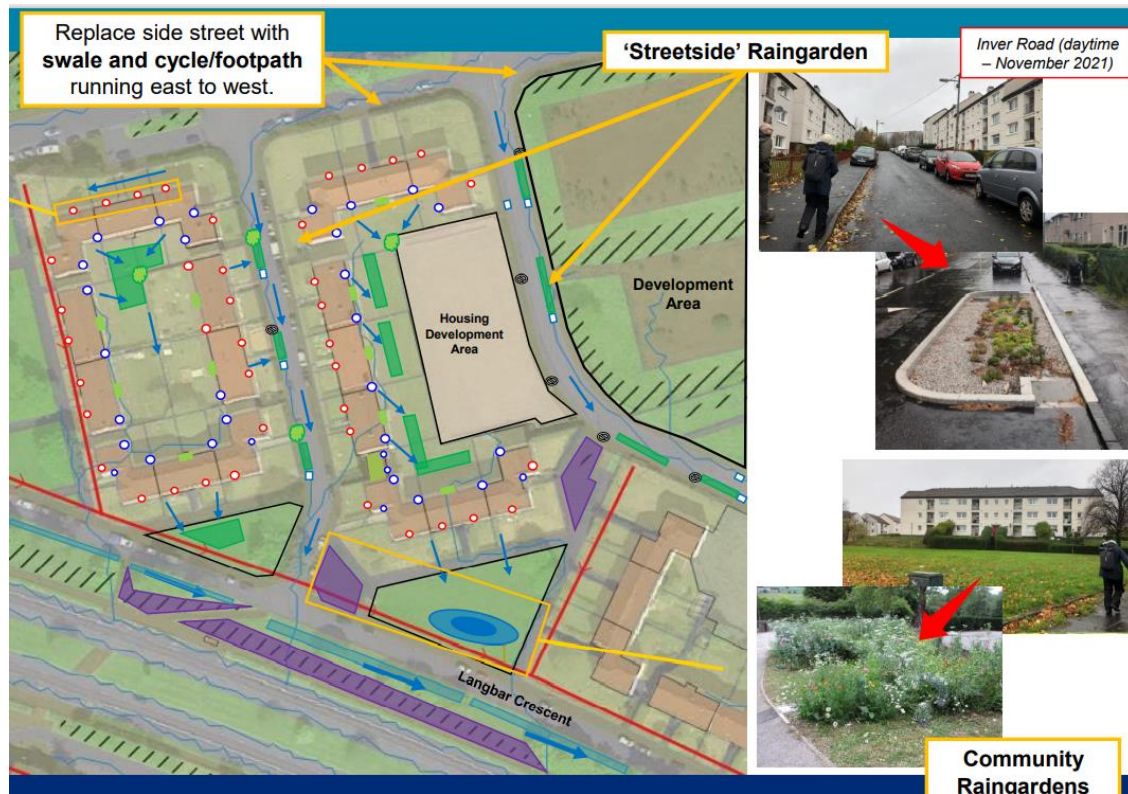
DH also noted that Scottish Power may need to be consulted around Green Roof on electrical substation and check would be required on load bearing capacity.

DF commented that it was good to see small interventions being considered and liked the photo showing vegetable plots as these can make people think about water as a resource. DF noted the ideas all showed low level planting but trees should also be considered.

BF mentioned that engagement will be required with GCC refuse Collection regarding any changes to the back courts to ensure this can be done safely. Stevie Scott and Martin McKelvie are the GCC contacts for refuse collection. AH noted that WHA are currently in dialogue with the Refuse Collection Team around the current arrangements and the potential for changes to the back courts.

KD noted there would be an opportunity to work together and use funding for back court developments to improve the management of surface water.

## Opportunities for Public Areas



MS outlined ideas around streetside rain gardens in Wellhouse Crescent/Inver Road and idea to create a cycle footpath/swale along the road that runs parallel to Bartiebith Road. There are also area of grassland that would have the potential to be used as community raingardens. MS also presented ideas for detention basin on Langbar Path and swales on Langbar Crescent/Edinburgh Road.

MR noted that Kevin Argue at GCC is the contact for sustainable travel (cycle lane) possibilities. MR also noted that when possible shared maintenance is required we need to develop appropriate legal agreements.

JM shared the link to GCC's Active Travel Strategy consultation which runs to 22 Nov 2021 (<https://www.glasgow.gov.uk/activetravel>). This currently shows a proposed City Network connection along Bartiebeith Rd. JM can provide a link to the Active Travel Team to consider collaborative opportunities.

DH noted that some of the streets highlighted for streetside raingardens were narrow with cars already parking on the pavement. GCC have been involved in trying to implement similar measures at Croftpark Avenue in the southside of the city and there has been a lot of community resistance to removal of parking spaces.

AH noted that parking is always a big issue at Bartiebeith Road and Inver Road.

BF mentioned we would need to be careful that any works do not provide an overall detriment to on street parking.

JM commented that if highway raingardens reduce on-street parking then the impact could potentially be offset by providing new (permeable) parking areas where there are currently just large grassed areas (as long as they are not better used for SuDS).

BF noted that GCC don't currently have experience of maintenance of on street rain gardens or budget to carry it out. MMcW noted the design once it was developed would provide an overview of proposed maintenance but this would not be able to give recommendations on training. KD noted that GCC may already have that knowledge and experience of maintenance from these types of measures installed elsewhere in the city. DH noted that discussions ongoing within GCC on how best to maintain these and use this experience going forward.

BF queried whether on street rain gardens were critical to the strategy or if they could be sacrificed for other measures if they became contentious with residents. MM replied that we would be looking to implement as many measures as possible to help reduce flood risk but don't necessarily need every one.

DH noted that there would be potential to explore a new surface water pipe network to take flows to centralised surface water management features. KD thinks we should be trying to move away from new pipes if possible and find a balance between parking and surface water management.

KD commented that these were great proposals to manage surface runoff. At the moment roads contribute approximately 50% of surface water runoff and we should be looking to the future and managing things differently. KD acknowledged there will be challenges and we need to overcome these. KD queried if there could be less cars on our roads in 10 to 15 years time but this is an unknown.

RH highlighted the opportunity to tie new developments into the plans. RH suggested that softer landscape features where possible would be preferable to buried drainage modules. RH also suggested a swale at bottom of slope in Edinburgh Road would be better than a swale at top of slope in adjacent Langbar Crescent.

DF also noted it would be great to tie new developments into the plans so they do not give us future challenges around management of surface water. DF queried whether any plans for these developments should be revisited to incorporate blue/green drainage measures.

CS noted the potential surface water management measures would be good for biodiversity. CS advised that any long vegetation would provide increased habitat for water voles. We will need to undertake water vole surveys and understand how any works would impact on these populations.

Plans would need to consider where we want to manage and keep water voles and ensure they are not directed to unsuitable habitats.

NB summarised that all parties agree the measures presented for tenements and public areas at Wellhouse West should be developed further.

### Langbar Crescent Storm Flow Overflow (SSO)



MMcW outlined benefits of separating storm flows at Storm Flow Overflow in Langbar Crescent. This has the potential to reduce combined sewer flooding, could be combined with SuDS from other planned developments and has the potential to bring amenity and biodiversity benefits.

MMcW outlined this has been reviewed in the hydraulic model and is predicted to reduce combined sewer flooding at Wellhouse Crescent by around 40% in a 30 year return period and around 33% in a 200 year return period. Separating the storm flows would require the provision of around 920m<sup>3</sup> of storage in the vicinity of Delny Place. MMcW noted this basin would normally be dry but during a 30 year return period there would be around 1m depth of water which is in line with guidance from Sewers for Scotland. The required storage would have a large footprint and MMcW presented a proposal where the carriageway at Delny Place is removed to provide more space for storage. This would have a smaller impact on any proposed development land.

MMcW noted that removal of the SSO increases flow in the Camlachie Burn. This results in an increase in model predicted flooding at the open section of the Camalachie Burn that runs through Barlanark Park. The hydraulic model predicts around 9% increase in flooding during a 30 year return period and around 19% increase in a 200 year return period. MMcW noted the only reports that Scottish Water's records have of flooding around Barlanark Park was in 2002 when there was extreme flooding across the city. MMcW also noted that the only reports GCC have of flooding in this area have occurred due to vandalism i.e. shopping trolleys in the culvert. MMcW noted that short term flood risk at Barlanark Park would be considered to be low if the Langbar Crescent SSO was removed based on the analysis presented.

RMcG summarised we would essentially be swapping dilute sewage flooding of properties at Wellhouse with rainwater flooding in Barlanark Park.

JM noted that areas of land planned for development could potentially be tied into any new SuDS basin for Langbar SSO.

WP noted that the Future hydraulic model has been used in sizing Langbar SSO basin and this has allowance for new developments. WP noted this would need to be developed further if we move into the detailed design stage.

KD asked if the Langbar SSO is a storm sewer or culverted watercourse. WP replied that Camlachie Burn is a culverted watercourse (Langbar Crescent) but there is also a storm sewer (Wellhouse Crescent) connecting into it as well, so it is both.

RH noted that it was good to see plan and land take for basin and that it would also be good to see cross sections. RH thinks this basin could be a focus for the community and improving the area. RH also thinks we should not be constrained by layouts of existing streets if there is opportunity to change them for the better.

DF noted there is often a conflict between land use and management of water. DF noted an infrastructure-first approach to new development will help determine blue-green infrastructure surface water management requirements before final location and design of the development. This will help with the climate resilience of the new and existing community and hopefully avoid the need for further interventions in the coming decades as rainfall intensities increase.

BF mentioned that Roads Scotland Act does not allow discharge of overflow water onto roads. MMcW clarified that the proposal would be to remove the road at Delny Place and there would be no discharge onto a carriageway.

KD commented that removing the SSO seems like the obvious thing to do and asked when can we do it. KD would want to do it sooner rather than later as it makes a big impact on the flooding experienced by residents in Wellhouse. KD feels this is a cost effective idea.

BF asked if there would be any impact on cleansing services. MMcW noted there should not be any impact.

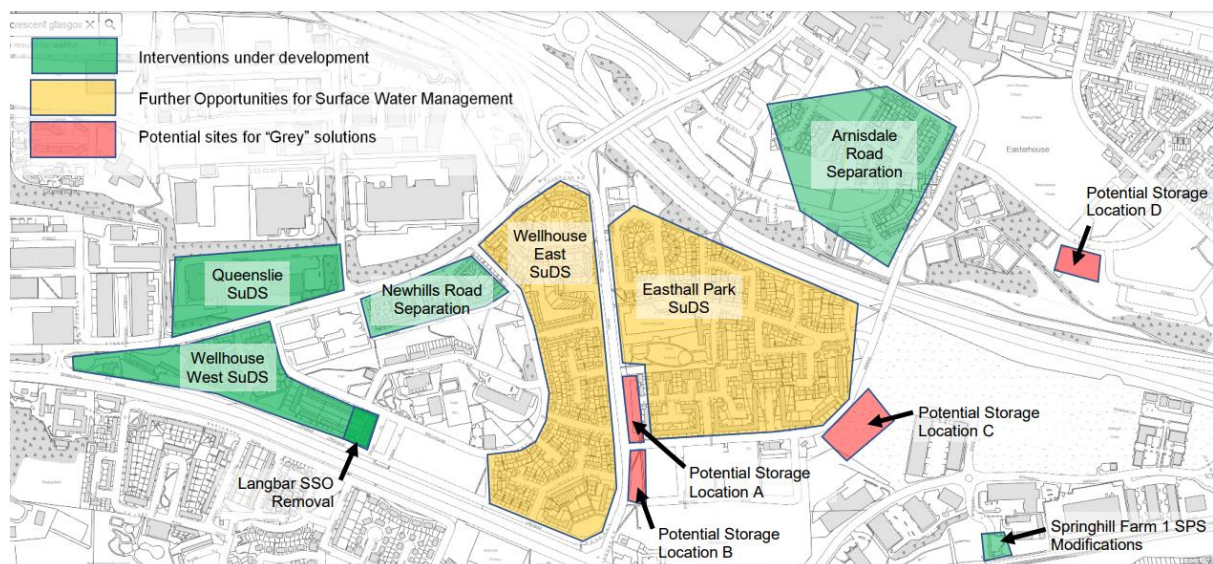
DH asked if we were to stop up Delny Place would this be Mic Ralph's team who would review the proposals. BF confirmed it would be.

DH asked if there had been a utility check of the proposed area as this can often have a big impact on cost and construction. MMcW confirmed that existing utility information has been obtained.

KD commented we need to take action and progress.

NB asked if anyone did not want the Langbar Crescent SSO. There were no objections and therefore agreed this should be progressed.

### Update on Wellhouse & Newhills Flood Project Updates



MMcW provided an overview of the other strategic interventions being investigated to resolve flooding in the area.

MMcW outlined that separation of surface water is proposed for some areas in Queenslie Industrial Estate. There is potential to integrate this with the proposals for the Langbar SSO.

At Arnisdale Road MMcW noted there are some areas of surface water system that connect into the combined sewer. Opportunity to remove these from the combined sewer and take to Whamflet Burn.

MMcW highlighted the Wellhouse East area as providing an opportunity to investigate separation of surface water. This area contains more individual houses which would require individual residents to agree which could make it more challenging.

Easthall Park area is somewhere else that MMcW highlighted could provide an opportunity to separate surface water but like the Wellhouse East area it consists mainly of individual houses and would require individual residents to agree to any measures.

MMcW outlined a number of locations that could potentially be used for combined sewer storage if required.

MMcW also mentioned Scottish Water are looking at operational changes at the Springhill Farm Pumping Station to help reduce the flooding impact.

AK provided an overview of the proposals for Newhills Road. The preferred solution is property level measures with new surface water drainage system going to new SuDS basin. JM asked if Langbar SSO basin would help with challenges at Newhills Road. AK replied that it may help. AK noted that the Newhills Road SWM measures at this stage are contained within the area between Bartiebeith and Newhills Road with an overflow from SUDS basin to the existing surface water drain. RH also noted there were discussions on site about raising the southern kerb of Balado Road to convey storm flow to the basin. AK confirmed the site discussions will be explored by the Newhills project team. RH also noted the opportunity to have a similar design for both the Newhills Road basin and the Langbar Crescent SSO basin.

CS noted we will need a strategic overview for the management of water voles and will need to maintain any travel corridors. CS queried whether measures like storage tanks would disrupt these travel corridors. KD noted that storage tanks would be buried and there would be opportunity to have a surface on top that would maintain or create habitat for water voles if required.

MMcW asked if we were to provide paths and habitat for water voles in one area would this facilitate more disruptive construction elsewhere. CS replied that the key is to maintain or create connectivity between existing populations of water voles. CS noted that we do not necessarily want to encourage them into new areas particularly unsuitable habitats. CS mentioned that GCC are developing a water vole action plan and the output from this should be available soon. CS noted that a licence is required from NatureScot if water voles have to be moved.

AK noted that during site visits some residents asked if something was going to be done about the water voles and they expressed displeasure about long grass. CS noted that if water voles are present then a licence is required for cutting the grass. CS also noted that they get a mix of responses from residents regarding water voles.

MS shared a link to water vole information on the GCC website (<https://www.glasgow.gov.uk/watervoles>).

MMcW talked through proposed stakeholder engagement over the coming months. Discussions to take place between M2/GCC/ScW re impact on Tollcross Burn from any modifications to Springhill Farm PS. This may also require discussions with SEPA. Discussions required with M2/GCC/WHA/ScW re integration of Langbar SSO proposals with proposals for Queenslie Industrial Estate. Discussions required between M2/GCC/ScW re Arnisdale Road separation and impact on Whamflet Burn. Discussion required with Easthall Park Housing Association around appetite for surface water management there.

## Discussion

NB noted general approval of options going forward.

NB asked if there was an agreed date for the next meeting. MH suggested that M2/ScW review actions from this meeting and then arrange meetings to allow them to be addressed.

General discussion around development plans for the area. MMcW noted that development plans have been included in modelling. A check to be made that there have been no changes to the planned developments. AH noted that Martin Wilkie McFarlane may be the best person to provide this. MMcW to contact Martin around this.

DH noted the constraints on development due to the drainage system and recent press article around this. DH noted it was good to be working together in developing positive interventions so we can help address these constraints.

RH suggested that tree survey required. CS suggested water vole info would be better obtained sooner rather than later as this can take a long time to obtain. KD noted tree and water vole surveys may be more appropriate during the detailed design stage. MH will speak to Scottish Water's Specialist Services Team to get advice on when to undertake tree and water vole surveys.

BF noted we would need to take on board residents wishes on any changes to parking. MH noted that we would engage with the community once details are further developed. KD said that GCC would be an important part of the community engagement.

JM noted he can help with providing points of contact for the Cleansing Department, NatureScot and SEPA.

RH asked who the best point of contact for her input going forward on 10,000 rain gardens. MH noted that MMcW/MH would be the best first point of contact and then can take any discussion from there.

KD wanted to know how we can progress the Langbar SSO removal. M2/GCC/ScW to meet by middle of December to discuss flood risk, Delny Place road closure and water voles. Scottish Water will then prepare a Go No Go Paper for end of January to get a business decision on this.

MMo commented she has lived in Wellhouse and Easterhouse area most of her life and was glad she was able to attend the workshop today. MMo noted she learned a lot from the workshop and felt excited about the proposals discussed.

Actions from meeting were discussed and are listed in the following action log.

#### **ACTION LOG:**

<b>Item</b>	<b>Action</b>	<b>Owner</b>	<b>Action Due</b>
1	Arrange meeting between M2/GCC/ScW and agree a way forward on progressing the Langbar Crescent SSO removal. (This will encompass action No.4 from previous meeting to recommend opportunities for Surface Water Management on Camlachie Burn).	MMcW/MH	15/12/21
2	Prepare Scottish Water GoNoGo paper with recommendations for Langbar Crescent SSO removal.	MMcW	31/1/22
	Discuss and agree a way forward on the potential impact on the Tollcross Burn from changes to the Springhill Farm PS. This will require input from GCC, ScW, M2 and possibly SEPA.	MMcW/MH	15/12/21
	Consider integration of Queenslie Industrial Estate SuDS with Langbar Crescent SSO separation.	MMcW	31/1/22

Item	Action	Owner	Action Due
	Discuss and agree way forward on Arnisdale Road separation and impact on Whamflet Burn. This will require input from GCC, ScW and M2.	MMcW/MH	28/2/22
	Discuss with Easthall Park Housing Association around appetite for surface water management there.	MMcW	28/2/22
3	Obtain guidance from Scottish Water Specialist Services around appropriate time for tree and water vole surveys.	MH	15/12/21
4	Check to be made of latest development plans for the Wellhouse area to ensure these reflect what has been used in hydraulic modelling.	MMcW	15/12/21
5	Develop and distribute plan for future meetings	MMcW/MH	15/12/21