

TITLE: Prestwick Strategic Drainage Project: Stakeholder Meeting

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

DATE: Friday 23rd Oct 2020



Notes of Meeting

Present:

Dr Philippa Whitford (PW)	MP for Central Ayrshire (Meeting Chair)
John Scott (JS)	MSP for Ayr
Helen Moonie (HM)	Provost – South Ayrshire Council
Ian Cochrane (IC)	Councillor – South Ayrshire Council
Margaret Toner (MT)	Councillor – South Ayrshire Council
Hugh Hunter (HH)	Councillor – South Ayrshire Council
Derek Hart (DH)	Prestwick North Community Council
John Park (JP)	Prestwick South Community Council
Sid Brierley (SB)	P-RAAF
Elizabeth Mackenzie (EM)	Philippa Whitford Constituency Support
Kevin Braidwood (KB)	Ayrshire Roads Alliance
Scott Greig (SG)	Ayrshire Roads Alliance & SAC Flood Risk
Neil Beveridge (NB)	Scottish Water Value & Benefits Team
Kieran Downey (KD)	Scottish Water Flooding Manager
Bill Elliot (BE)	Scottish Water Stakeholder Manager
Grant Vanson (GV)	Scottish Water Flood Risk Management Team Lead
Sandie Mann (SM)	Scottish Water Catchment Planner
Martin Hagen (MH)	Scottish Water Intervention Manager
Kris Elder (KE)	ARC Hydraulic Modeller
Fraser May (FM)	ARC Design Lead
Kenny Falconer (KF)	ARC Design Engineer

ACTION LOG:

Item	Action	Owner
1	Next Meeting of Stakeholder Group to be arranged for January 2020. 2No meetings to be considered if longer than 2.5hours required.	BE

Introduction

PW introduced the meeting and welcomed JS back on behalf of the group after his recent absence. HM and SB called in via the telephone only and were unable to access the Microsoft Teams Meeting visuals. BE forwarded on a pdf of the meeting slides to HM and SB for reference.

Update on Actions from previous meeting

MH provided an update on actions from previous meeting. These are summarised below:

Item	Action	Owner	Update
1	South Ayrshire Council Planning Department to be encouraged to attend future Prestwick Strategic Study Meetings.	Helen Moonie	Planning department apologised for not being able to make this meeting but will attend future meetings.
2	Determine if South Ayrshire Council have any projects that may interface with any proposals to manage surface water.	Scott Greig	South Ayrshire Council/Ayrshire Roads Alliance have no current projects that interface with proposals to manage surface water.
3	Come up with ideas on how we can best engage with customers and the community to promote property level management of surface water. Report any ideas to Bill Elliot who will collate ahead of the next meeting.	All	Philippa Whitford : Public information campaign on alternatives such as gravel, drainable monoblock or mesh supported grass with a price comparison and comparison of flood reduction to common driveway surfaces such as tarmac, monoblock or paving. A Local Authority supported programme (similar to one for compost bins) to provide cheap water butts due to bulk purchasing. Ian Cochrane: Could you sponsor a scheme to offer free/discounted water butts/ rain gardens for residents of problem streets. Perhaps engage Energy Agency to promote and administer it on behalf of SW. Scottish Water: Prestwick Pilot being developed for implementing surface water management measures. Details will be shared as part of this meeting.
4	Scottish Water to send out information on rain water management measures such as that provided by Central Scotland Green Network.	Bill Elliot	Emailed out 10th July 2020.
5	Next Meeting of Stakeholder Group to be arranged to evaluate the further developed options. Date provisionally agreed for 23rd Oct 2020.	Bill Elliot	Placeholder emailed out 10th July 2020.

Update on Mitigations

MH provided a brief update on recent mitigation works undertaken along Ayr Road and in Brandon Gardens. Speed Tables installed by Ayrshire Roads Alliance in July. Temporary Storage in Brandon Gardens completed in July. Scottish Water’s Delivery Partner currently scheduling Permanent Storage works at Brandon Gardens and St Nicholas Rd. Current indications suggest this work may start late November/early December subject to all necessary permissions being in place.



Speed Table



Temporary Storage

Project Timeline

MH provided an update on the project timeline. Previous meeting had identified 2months ahead of schedule. Since the last meeting 2Di modelling has been undertaken. This has improved knowledge around surface water and how this interacts with the drainage system as a whole. This is a new method that utilises the latest advances in modelling. It is new both to Scottish Water and their Strategic Consultants. It has been shown at a number of locations nationwide to provide a greater understanding of the interaction of surface water and how best to deal with it. This has had an impact on time and it is now forecast that work is back following the original timeline prior to the last meeting.

Prestwick Strategic Study Revised Timeline

	2019				2020												2021			
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Surveys	█																			
Flow Survey		█★																		
Model Maintenance					█	█	█													
Model Predictions/Hydraulic Review							█													
Optioneering – Long List					█★	█	█	█	█	█	█	█	█							
Optioneering – Short List and additional assessments for SWM										█★	█	█	█	█★						
Costing of Options															█	█				
Evaluation of interventions to form Preferred Solution																	█★			
Discuss/Agree Preferred Solution with Stakeholders																			█★	

★ Proposed Stakeholder meetings

Shortlist Progress since Summer Meeting

FM provided an update on development of the shortlist options agreed at the last meeting. These are summarised in the overview plan/ following tables and comprise a mixture of hard engineering solutions and surface water management.



Zone A - West of Railway

Preventing and slowing entry of surface water

- Will be required for all solutions. Thoughts around this were discussed generally for the catchment and are summarised later.

Pass-forward and Storage (Esplanade)

- New storage in Esplanade
- New sewers from Marina Road to Esplanade
- New pipeline from Ayr Road to Esplanade under railway at Grangemuir Road
- Reduces flood risk on Marina Road, Seabank Road, Midton Road, Ayr Road, Carrick Place
- Storage needed to increase capacity at Esplanade to deal with extra flows and prevent flooding there.
- Final Storage size still to be determined. Dependent on how much we can prevent and slow entry of surface water.
- Next step - assessing impact on storage size from preventing and slowing entry of surface water

Zone B - East of the Railway (north)

Preventing and slowing entry of surface water

- Will be required for all solutions. Thoughts around this were discussed generally for the catchment and are summarised later.

Flow Transfer to Pow Burn catchment

- New pipeline along Ladykirk Road
- Reduces flooding to rear of Main Street properties
- Pushes up water level in sewer in Pow Burn catchment. Additional work needed to reduce risk.
- Doesn't reduce flow to Main Street to stop flooding alone
- Next step - Assessing impact of ways to prevent and slow entry of surface water

Pass-forward to Zone A (Bridge Street)

- New pipeline along Kyle Street, Midton Road and Bridge Street
- Bifurcation identified to take flow from behind Midton Road
- Join in with Grangemuir Road new sewer
- Reduces flood risk on Ayr Road and Carrick Place
- Reduces flood risk at Midton Road
- Would cause flooding in sewer at Esplanade. Storage needed to offset risk
- Doesn't reduce flow to Main Street and Midton Road enough to stop flooding alone
- Next step - Assessing impact of ways to prevent and slow entry of surface water

Zone C - East of the Railway (south)

Preventing and slowing entry of surface water (park)

- FM provided an overview of work in St Ninian's Park which could meet the objective set at previous Stakeholder Meetings to prevent and slow entry of surface water into the combined sewer. This could be undertaken in two phases.
- Phase 1 – remove surface water from roofs at the Ambassador Bowling Club, Space Place and Swimming Pool. This would be directed to attenuation basins with a connection back into the combined sewer. This is something that could be progressed if agreement is reached with all impacted parties. This could provide a predicted 10% reduction in flood volumes in Ayr Road/Carrick Place, predicted 5% reduction at Grangemuir Road/Ayr Road and predicted 5% reduction at Brandon Gardens.
- Phase 2 – remove surface water from car parking and attenuate. This would require more disruptive work in car parking in the short term and would take longer to plan and agree. Together with Phase 1 this could provide a predicted 15% reduction in flood volumes in Ayr

Road/Carrick Place, and predicted 20% reduction at Grangemuir Road/Ayr Road. This is something that is recommended to be undertaken as a second phase to further reduce rain water getting into combined sewer from the St Ninian's Park area.

Preventing and slowing entry of surface water (general)

- Will be required for all solutions. Thoughts around this were discussed generally for the catchment and are summarised later.

Flow Transfer to Pow Burn catchment

- New pipeline through St Ninian's Park
- Reduces flooding at Mansfield Road/Whinfield Road junction
- Reduces flow running into Ayr Road
- Pushes up water level in sewer in Pow Burn catchment
- additional work needed to reduce risk
- Doesn't reduce flow to Ayr Road enough to stop flooding alone
- Work will be required on Ayr Road
- Work will be required on Ayr Road – measures around it help but are insufficient
- SB asked about why we don't just put in a new surface water sewer?
- Next step - Assessing impact of ways to prevent and slow entry of surface water

Pass-forward to zone A

- New pipeline from Ayr Road to Esplanade under railway at Grangemuir Road
- Breaking bifurcation at Bank Street
- Reduces flood risk on Ayr Road and Carrick Place
- Reduces flood risk at Midton Road
- Would cause flooding in sewer at Esplanade. Storage needed to offset risk.
- Doesn't reduce flow enough to stop flooding alone
- Next step - Assessing impact of ways to prevent and slow entry of surface water

Appraisal of surface flooding

KE provided an overview of surface flooding and advantages of more detailed 2Di modelling undertaken. Additional appraisal needed to represent existing catchment and options. Summarised in table below:

- Flooding descriptions from stakeholders indicate that not all surface water is getting into combined sewer. Risk traditional combined sewer options alone may not be effective if interaction with surface water is not fully understood. Findings of other projects (best practice) have shown the benefit of additional modelling to understand surface water interactions.
- Standard Modelling Approach – Flows represented simplistically. All foul flows, roof flows and ground flows modelled as a single subcatchment and added into the hydraulic model. Does not allow differentiation between foul flows and surface flows. Any combined sewer solutions need to be sized to take all flows.
- 2Di Approach – Allows flows to be separated and additional detail built into model. Better able to represent extreme events. Allows better development of solutions to convey combined flows and manage surface water flows separately.
- 2Di modelling has shown that even with unlimited sewer size, flood risk remains. Not all rainfall gets into the sewer. Modelling has proved to be even more important than we expected. We need to deal with the water that stays on the surface. Better able to accurately size what will reduce risk. Have avoided sizing solutions that won't work

Preventing and Slowing Entry of Surface Water

FM provided an overview of potential measures around preventing and slowing surface water entering the combined sewer for the whole Prestwick catchment.

- Agreed at previous meeting to look at ways to prevent and slow entry of surface water.
- Looked in more detail of main methods of slowing or stopping road runoff:

Attenuating rain gardens



Rain gardens plus some trees



Permeable paving beneath parking



Combination of the three



- Where ground conditions allow we'd look to allow water to soakaway, where not possible we'd store it up and slowly let it back into the combined sewer.
- Other shortlist item was to investigate how we deal with roof runoff. The main ways of doing this are:

Disconnecting downpipes into planters or water butts



Ponds or rain gardens



- FM provided example of sub catchment to the west of Ayr Road. Sub catchment has approximately 160 houses which would typically contribute 800m³ of water during a large storm event. The sub catchment also has around 1.1miles of roads which would typically contribute 900m³ of water during a large storm event. This means the drainage system is typically having to deal with 1700m³ of water in a storm event. FM gave an analogy that if this did not get into the drainage system it would be equivalent to a 0.5m depth of water on Ayr Road from Grangemuir Road to Kingscroft Road. FM noted that if we are able to deal with this water in a different way that we do at present then it would have a great impact on reducing flooding.

Surface Water Management Initiative

MH provided an overview of the Surface Water Management Initiative that has been set up to help promote and implement measures to reduce surface water getting into the combined sewer in Prestwick.

- A brief overview was given of the terms blue/green infrastructure which are often referred to around management of surface water.
- **Blue infrastructure** - water elements like rivers, canals, ponds, wetlands, floodplains
- **Green infrastructure** - trees, lawns, hedgerows, parks, fields, forests
- Pilot Initiative for town of Prestwick
- Bring agencies together to engage the community and support the implementation and ongoing monitoring of the pilot.
- Agencies including Scottish Water, South Ayrshire Council/Ayrshire Roads Alliance (officers and Councillors), Green Action Trust/Central Scotland Green Network (Raingardens project team), Citizens Advice Scotland, community stakeholders such as Prestwick North and South Community Council and PRAAF.
- This will be a learning experience for all involved.
- Will help inform the creation of a national campaign and programme for Surface Water Management.
- Scottish Water been in preliminary discussions with Scottish Government who are supportive of having a pilot for Prestwick.
- Some examples were shown of what the initiative may involve?
 - Remove /attenuate rain water from large roofs
 - Target buildings under control of public bodies
 - Remove/attenuate rain water from car parks
 - Remove /attenuate rain water from roads/pavements
 - Attenuation ponds
 - Underground surface water storage
 - Property level attenuation - Greening driveways
 - Property level attenuation – planters/rain gardens

Discussion

- HH asked if water doesn't get into the sewer, will it not get there eventually? Can we not put in more gullies to help it get there? KD responded that routing water to the sewer quicker will cause problems elsewhere and is the reason we have sewer flooding. PW noted that more rainwater causes more sewage flooding rather than rainwater flooding. HH noted that he feels the sewer system is inadequate if it cannot cope with rainwater. PW thinks we need to move towards a more European system of separate drainage systems which means less chance of flooding being contaminated with sewage. HM can see the need for a separate storm water system to reduce the risk of polluted flooding.
- HM mentioned sewer flooding in Adamton Road South at Arran Park. KE explained that the sewer flooding in Adamton Road South/Arran Park drains to the Ayr Catchment and is not covered as part of the Prestwick Strategic Study. IC explained that there is flooding regularly at the junction of Adamton Park Road South and Arran Park. KB noted that Ayrshire Roads Alliance's gully team went out this morning to clear standing water at the junction of Adamton Park Road South and Arran Park.

- SB suggested that surface water from Prestwick Road/Ayr Road could be taken to the seafront. SB explained that something similar was successfully undertaken in New Ross, County Wexford in Ireland where they closed the main road to put in a new foul sewer and new storm sewer.
- DH noted that there were news reports this morning of flooding in the north of Scotland in a village which had never flooded in 33years and that residents say it is due to recent development. KD noted that if the development had taken place in the last 10 to 15 years then it should not impact on flood risk as surface water should be dealt with separately and be subject to a flood risk assessment.
- IC noted that he has taken over responsibility for Planning and he will encourage attendance at future meetings to aid with discussions.
- SB noted frustration at discussions focusing on surface water management and not hard engineering solutions. Focus appears to be on members of public being asked to manage water rather than hard engineering solutions to convey the water. SB noted that people continue to pave driveways which increases impermeable areas. SB also noted concerns about developments in Monkton.
- JS shared concerns with developments around Prestwick. JS supports the idea of a pilot initiative to remove surface water from the combined sewer and suggested that the Space Place in St Ninian's Park would be a good demonstration area. JS endorses multiple agency approach and is happy to support surface water management strategy in government.
- PW understands SB concerns that sounds like we are asking members of the public to undertake work but not developing infrastructure. PW noted that it needs to be made clear that Scottish Water have a commitment on improving infrastructure as well so that it is shown to be a collaborative approach.
- KB supported the use of street gardens and noted they could potentially be used as traffic calming. KB highlighted that Ayrshire Roads Alliance previously looked to trial the use of street gardens in Troon but these were opposed due to loss of parking. PW noted that street gardens could be used to tie into cycle lanes. DH queried whether traffic calming in the form of speed tables would move runoff elsewhere. KB noted the preference would be traffic calming using step outs formed into rain gardens that would not move runoff elsewhere but deal with it at source.
- KD explained that rain gardens or streetscapes cannot be imposed and we need to educate and encourage residents to support and implement these. This needs integrated planning to ensure a long term strategy. KD noted that drainage problems in Prestwick are replicated across the country.
- HM enquired what impact infiltrating water would have on the ground water table. MH noted that ground investigation would be undertaken to assess suitability of the subsoil where large areas of infiltration were proposed.
- DH noted that there is no policing by Planning department.
- PW expressed disappointment that new Troon cycle path did not use permeable surfacing. PW noted that it is good that KB is involved to help promote permeable surfaces for future works. JP noted that permeable paving is generally more expensive and requires more maintenance. KB noted that permeable resin surfaces are available in addition to permeable block paving.

- PW noted that in Copenhagen they turned a bypass into a green cycleway and that 50% of journeys are on cycleways.
- DH noted that we have been discussing increasing the number of trees but trees are being removed in Shawfarm Road. KD noted that increasing trees/planting is important as the canopy slows down the runoff which has a bigger impact than what the roots soak up. KB noted that new trees planted as part of surface water management are generally in a self contained chamber which manages root growth and provides storage of water.
- PW suggested that flow could be measured at a site selected for roof removal to understand and demonstrate the benefits. KD noted that a site at London Road in Glasgow had been monitored and had shown that there was very little surface water exiting the scheme due to attenuation and root uptake.
- PW had discussions with a civil engineer working on a large tunneling project in the south of England. The project used a process termed “Choosing By Advantage” which did not use cost for evaluation but instead assessed options based on what would give the best overall benefit.
- HM noted that any work on surface water management will need to comply with Planning Legislation. HM noted that under permitted development, owners have certain rights to do work on their properties such as pave over driveways. HM noted that it is possible to implement an Article 7 Planning Directive that can remove permitted development rights. This however would be a big step to take and public feeling would need to be considered.
- Discussion around development. KD noted his understanding that Scottish Water is not a statutory consultee for developments and are only consulted when the developer asks if they can get a connection to the sewer. This will be checked. **(KD Post Meeting Note:** Scottish Water is a Statutory Consultee and should be consulted for all planning applications but this unfortunately does not happen in all cases). JS thinks that South Ayrshire Council Planning should try and add Scottish Water as a statutory consultee.
- NB recorded discussions on screen during the meeting to provide a Needs Statement together with Benefits and Risks. These are shown below:

Needs Statement		
When we are done we need to the following:		
<ul style="list-style-type: none"> • Sustainable solution. • Quality / time of solution working should be considered over cost alone. • Place making of area if possible. • Collaboration across all stakeholders / agencies etc. required. • Learning lessons from different parts of the world. • Multiple benefits from change /projects. • Planning is a critical part of this process - must be represented. • Education campaign of public & developers etc. • <i>SEPA should be part of these discussions / workshops or at least be informed</i> 		
Option	Benefits	Disbenefits / Risks
Residential Removal of Storm Water (roofs and driveways)	<ul style="list-style-type: none"> - Sustainable solution. - Garden improvements for residents. - Public exhibition/video in community hub could provide examples of surface water removal 	<ul style="list-style-type: none"> - Consultation needed before implementation. - Planning discussion required. - Education of public required. - Time delay for public to take up

	<ul style="list-style-type: none"> - Potential for Article 7 implementation requiring residents to get council consent 	<ul style="list-style-type: none"> scheme. - Need for funding - incentives for public uptake. - Individual uptake required - there is no control of implementation. - Poor design - implementation risks - Requires a lot of customer input for materials / plants used - Need to comply with legislation. - Public do not accept changes.
Removal of Roads Storm Water	<ul style="list-style-type: none"> - Opportunity for inclusion of surface water attenuation as part of other developments. - Could be part of traffic calming scheme or Cycle paths solution. - Potential for absorbent surfaces. - Tree planting could also reduce noise throughout the town. 	<ul style="list-style-type: none"> - Consultation needed before implementation. - Planning discussion required. - Education of public required. - Scottish Water Council collaboration required. - Parking must not be negatively impacted. - Tree removal education is required - developers etc. (trees slow 80% of rain water falling on ground - foliage cover) - Permeable materials could require further maintenance / cost etc. - Tree root issues should be mitigated. - Poor design - implementation risks - Requires a lot of input for materials / plants used / impact of solutions on other aspects of the town or the public. - Need to comply with legislation.

Conclusion and Action Planning

- NB noted that a lot of the discussions today were around surface water management but reiterated that Scottish Water are committed to developing infrastructure/hard engineering solutions.
- Date for next meeting to be set for Jan 2021. A meeting length of 2.5hrs was considered to be the longest that would be appropriate for an online meeting and a number of stakeholders would not be able to commit to anything longer. If longer time is required then 2No meetings could be considered.
- PW thanked everyone for attending the meeting