

SUDS for Roads – Steering Group response to consultees

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Consultation Comments and Responses

Question 1 – Structure of SUDS for Roads document

a. Can you follow the structure of the SUDS for Roads document?

b. If not, why not?

Response

Overwhelmingly the responses to this question were positive demonstrating not only that the need for the document was correct but that the delivery and focus was properly targeted at the relevant group of practitioners. Some correspondents questioned why the manual did not go as far as dictating policy however this was never seen by the steering group as the primary role of the manual and which in any event would have required a different approach and timescale meaning that early delivery of this essential guidance would not have been possible.

Comment on policy matters is contained in the section on 'Recommended Future Actions' at the end of this document.

Question 2 – Roads Construction Consent

Where development requires the provision of a new road, with the intention to have it adopted by the roads

authority and added to the register of public roads, an application for Road Construction Consent (RCC)

will be required in accordance with The Roads (Scotland) Act 1984. The purpose of Road Construction

Consent is in part to protect the owners of properties within new developments and also to protect the future

road maintenance liabilities of Local Authorities. Road maintenance includes drainage.

a. Does the guidance give a clear route for the design, approval and implementation of SUDS drainage for roads?

b. If not, please identify the gaps in the process.

Response

The response to this question has been broken down in order to respond more fully to the correspondents.

- i) The majority of correspondents were in favour of the methodologies promoted in the document as a means by which they could adopt or modify existing procedures. Those that were less so in fact sought more detail and more structured guidance. The manual therefore meets the needs of the majority and consequentially encourages further debate.
- ii) On the matter of a clear route for approval responses were evenly divided over this question aspect and when investigated further revealed the large variation in existing approval procedures across Local Authority bodies. This the Steering Group believes demonstrates the need for a more uniform nationwide approach to the matter of non planning approval measures associated with the 'Roads (Scotland) Act 1984 and that this should form part of the 'Recommended Future Actions'. Consequently the steering group does not consider that changes are required to the manual in this edition.
- iii) Slightly at odds with the responses to ii) above, the majority of correspondents were in agreement that the manual provided a clear route for implementation. The steering group considers that this demonstrates not so much that the approval process is less well understood but that the many overlapping elements of differing legislative instruments make the processes complex. The manual therefore is well received in providing a common focus for the legislation and brings these instruments to the fore where their interaction is more readily understood.

Other correspondents comments demonstrated the differences in understanding how the system works between public sector officers and the private sector of developers and consultants. However the steering group considers that in laying down these processes then a better understanding by all of their responsibilities and duties will emerge and does not intend to edit further this section of the

manual.

Question 3 – Section 7 Agreements

Section 7 of the Sewerage Scotland Act 1968 makes provision for Scottish Water to enter into agreement

with the Roads Authority to allow the use of their sewers for the conveyance of water from the surface of a

road or to allow the use of road drains for the conveyance of surface water from premises.

a. Will section 7 agreements and SUDS for Roads help facilitate the adoption of

SUDS by both local authorities and Scottish Water?

b. If it will not, suggest scenarios which might not be addressed through section

7 agreements and SUDS for Roads?

Response

The majority of responders believed that Section 7 agreements will help facilitate the adoption of SUDS.

At the time of the consultation a minority of responders expressed concern over the implementation of such agreements, however since the launch of the draft SUDS for Roads document Scottish Water and SCOTS

have held detailed discussions to address many of these concerns. Scottish Water and SCOTS have jointly developed further guidance material on this matter for staff from both organisations to aid implementation and consequently both parties now believe that respective Road Authorities will be able to move forward with implementing Section 7 agreements where applicable.

A typical Section 7 agreement will be a single high level or authority wide agreement containing an appended schedule pertaining to specific developments.

The Steering Group is satisfied that the production of the manual has been instrumental in the resolution of this longstanding issue and that clarity with regard to respective legislative position has been achieved but also accepts that there is work still to be done on whole life costs to facilitate budgetary awareness and will recommend that this study is undertaken as soon as possible.

Question 4 – Drainage assessment

The drainage assessment procedure has now become well understood when considering the management of

surface water in urban areas.

In what way will SUDS for Roads influence the preparation of a Drainage

Assessment?

Response

It was clear from the correspondents answers that the need for a Drainage Assessment is not fully comprehended ranging from 'didn't know' to 'not comprehensive enough'. Indeed the role of a Drainage Assessment in understanding the function of site surface water management in relation to a wider Flood Assessment has largely been undervalued.

The steering group considered that it was right to highlight this important tool and its relationships within the manual and that again the manual has been beneficial in highlighting the processes in relation to each other. The responses also demonstrate the need for training to be delivered in furtherance of the manual's aims. The steering group includes this in 'Recommended Future Actions'.

Question 5 – Costs and benefits

SUDS costs should be weighed in terms of benefits to society, and not just be seen as a cost benefit to the

developer or maintaining body. The implementation of SUDS is mandatory through existing legislation.

Many SUDS components may be easily maintained as part of the maintenance regime adopted for the road.

The cost associated with this type of maintenance is usually comparable or lower than that associated with

maintenance of conventional road drainage.

The research evidence shows that SUDS for roads will not increase costs for adopting authorities. In particular, there is considerable misunderstanding about costs when conventional drainage is compared with SUDS drainage.

- a. Do maintenance regimes recognise that costs need not increase?
- b. What additional steps might be appropriate to demonstrate costs in the longer term?

Response

It is evident from returns that this question was very emotive and that clarity and robust evidence is needed with regard to the matter of costs both within capital and maintenance areas of expenditure. It is however clear from the responses that practitioners still insist on comparing costs between conventional roads and roads with SUDS when in fact that comparison is erroneous as the legislative changes brought in mean that conventional roads are not an option and that costs only relate to what is required to meet current legislative standards.

The Steering Group considers that it is right to state that SUDS are on balance cost neutral and also that in relation to certain developments have a positive cost influence. However the responses demonstrate a wide gap in perception and that more work needs to be done in this area. The Steering Group is clear that so called 'three pipe systems' are not financially viable and do not demonstrate best value.

The Steering Group agrees with the comments and this section of the manual has been now been reviewed with the intention of providing more evidenciary proof of the cost benefits of SUDS. The Group is also adding it's weight to a call for more academic study into the whole life costing of SUDS as a direct consequence of this consultation.

Question 6 – Land take costs

The impact on costs associated with land take is likely to vary in significance, based on the location of the

proposed road and location of the associated SUDS features. In certain circumstances the effective cost of

the land can be zero, where the area of land occupied by the SUDS feature has a dual purpose such as

within the footprint of the road or within public parking, recreational areas or public open space.

- a. Are sufficient options available in the guidance to produce a financially viable scheme where the cost of land is an issue?
- b. If not, please suggest further options which might be included in future guidance.

Response

The majority of respondents agreed that sufficient guidance was contained within the manual however as in Q5 land take is an issue and the cost of land where constraints are more likely was an important concern. On balance the Steering Group considers that sufficient options are available from within the manual to cover the majority of projects. Particularly where land constraints are an issue then pervious paving has been specifically included as an alternative and Local Authorities throughout Scotland have now begun to consider these solutions for

adoption and consequently given the majority of responses and additionally the work to be undertaken subsequent to Q5 then the present edition of the manual will remain unchanged in this area.

Question 7 - Safety

There is a general misconception that site control ponds and wetlands are unsafe and pose a risk of

drowning. At the time of writing there is no recorded evidence of such an incident, and properly designed

SUDS should pose little or no risk.

Are safety concerns sufficiently addressed?

Response

The Steering Group took considerable care over this aspect of the manual and fully comprehends the many concerns that are expressed by designers and the general public alike with regard to open bodies of water. It is therefore pleased to report that 74% of respondents agreed that adequate advice was given in this difficult area. Adherence to risk assessments and safety by design in conjunction with appropriate consultation will ensure that safety is adequately addressed. Other comments suggested that case law be referenced in this section however the steering group did not consider this was appropriate given the responsibilities inferred under the Construction (Design & Management) Regulations 2007 (CDM 2007). No amendment is proposed in this context.

Question 8- The water environment

Where SUDS features discharge to sensitive water resources, or in close proximity to points of extraction,

additional treatment measures may be required to ensure that discharging waters are of the highest quality

and free from contamination. Guidance in Technical Advice to Third Parties on the Pollution of the Water

Environment of Part IIA of the Environmental Protection Act 1990 requires to be followed.

Are SEPA's requirements clear in the document, or is there adequate guidance for

locating them?

Response

Whilst many respondents felt that SEPA's requirements were understood it was also evident many sought greater clarification. This has been taken on board by the Steering Group and the manual has been revised and in addition to further editing within the document SEPA will update their own guidance relating to SUDS and create links within SUDS for Roads to the SEPA website. Not all of the SEPA updated guidance relates to roads, but it will take account of SUDS for Roads guidance.

Question 9 – Sufficiency of the details provided

Where pervious pavements or SUDS features adjacent to the road formation are being considered, it is

essential that accurate measurements of CBR values are obtained for the saturated foundation soils, unless

an impermeable membrane preventing infiltration is provided.

a. Are sufficient technical details provided (or sufficient to direct the reader) to

allow adoption?

b. If not, please suggest the types of technical information that should be added.

Response

The majority of respondents considered that the manual did not contain sufficient standard technical details and this is recognised by the Steering Group preferring to reference other material in this area. The manual was never intended as a book of technical details as this would have been an onerous task in itself and unlikely to be achievable within the given time frame. This is recognised as a pressing need by officers in the field and accordingly a recommendation will be made for future action in this regard but under cover of separate publication. This may take the form of a Scotland wide standard rather than authority specific but the desire for such a work is accepted.

Question 10 – Skills and equipment in local authorities

The design of the road and SUDS components should take into account the operation and maintenance required by both individually and when considered together, so the design performance is not compromised during maintenance activities.

a. Does this document highlight the skills/ equipment required to maintain SUDS

within the existing roads budgets?

b. Do local authorities possess the skills required?

c. Do you feel that site visits (Craigmillar in Edinburgh and Oxford have been

suggested) might be appropriate?

Response

i) The greater majority of respondents agreed that the manual adequately explained the level of skills and equipment required to maintain SUDS however the problems of containing this within existing budgets were of major concern also to the majority.

ii) This however is quite distinct from the availability of these same skills and equipment to

individual authorities. This is indeed a major concern for practitioners and is recognised by the Steering Group.

iii) The need to understand how SUDS function and to see working examples was clearly expressed by the majority and to this end the Steering Group is working with the University of Abertay Dundee to promote further training specifically aimed at SUDS for Roads.

Whilst it is felt that the manual has done much to highlight the skills needed to achieve successful fit for purpose SUDS for Roads designs clearly there is a consensus from practitioners that a perceived skills shortage exists, which view is supported by the Steering Group.

Consequently the Steering Group will include comment on this important area in it's report to it's commissioning body of SUDSWP and SCOTS.

Question 11 – Construction and inspection competence

The suitably experienced inspector must have completed a recognised training module on SUDS inspection

or be able to demonstrate through their experience an acceptable understanding of the required standards.

A well designed SUDS feature, which receives tailored maintenance and monitoring may be expected to be

as durable as a traditional system of roads and drainage.

- a. Are contractors sufficiently skilled to deliver good quality SUDS features, especially those incorporated in the road pavement?*
- b. What additional skills or knowledge might be required to deliver durable permeable surfacing?*
- c. Should a SUDS inspections certificate course be established?*

Response

- i) Overwhelmingly respondents replied that these skills were not readily available within the contracting community and that this was a barrier to achieving good acceptance of SUDS for roads.
- ii) The majority of respondents were in favour of specific training in this area for contractors and that an inspection certificated course would be helpful.

The Steering Group is committed to promoting training in this important aspect of construction and will make firm recommendations to its commissioning bodies of SUDSWP & SCOTS to consider promoting such training.

Question 12 – Residual issues with Scottish Water

Since the introduction of SUDS drainage, difficulties have arisen where untreated roads water is proposed

to enter Scottish Water's drainage system. SUDS for Roads outlines methods whereby runoff from roads

may be accepted into the Scottish Water sewer network (or not as appropriate).

a. Do you believe that SUDS for Roads helps resolve this difficult issue?

b. If not, what issues are not addressed?

Response

Whilst at the time of the launch of the manual diverging views existed regarding liaison with Scottish Water, matters have moved forward with Scottish Water engaging in direct discussions with Local Authorities and SCOTS in the promotion of Section 7 agreements. The Steering Group understands that significant progress has been made in this area and is pleased that the promotion of the SUDS for Roads manual has facilitated much needed dialogue between the parties. This has led to a greater understanding of each others operational procedures and difficulties in achieving development approvals.

Question 13 – Roads and climate change

The road surface may provide an important contribution in providing a drainage path for overland flood

flow where the return period of the storm exceeds the capacity of the drainage system.

a. *Road drainage may be required to operate at or near capacity with climate change. Is this issue sufficiently addressed?*

b. *Roads will become recognised flow routes and water attenuation areas during more extreme flood events. Is there enough guidance on this matter?*

Response

The large majority of responders were satisfied that climate change was adequately addressed and that the manual helps to raise the profile of this important issue among regulators. At the same time concerns were expressed about the capability of existing systems to cope with climate change effects but this is outwith the scope of this manual, however practitioners are reminded of the important role that SUDS have in attenuating flows and mitigating flood impact. Some comment was received regarding the failure to dictate numerical standards in the area of return periods and attenuation rates, however the Steering Group reminds practitioners that this design guidance does not dictate policy for reasons stated earlier and believes that the correct approach was used in the manual to highlight the choices available to regulators in this regard.

Question 14 – SUDS in high density areas

One key need is to enable better SUDS in densely built up areas. Does the guidance help?

Response

The majority of respondents agreed that the manual provided adequate help and guidance for high density areas and that sufficient options were available to ensure that a variety of SUDS can be incorporated into Roads designs within such areas, not the least being pervious paving helping to deal with tightly constrained development. It is recognised that for certain constrained sites that SUDS choices will be limited but that is the nature of a constraint, if indeed only one option is obvious then the constraint is removed and the manual has done its work. In responding to concerns over high density areas the Steering Group has included a

section on proprietary systems whilst recognising that divergent views exist on these systems but allowing flexibility for regulators to make their own determinations.

Question 15 – Utility companies

Successful SUDS serving urban roads will require to operate in the long term alongside a range of other

utilities in dense urban environments. There is also a change in approach to layout and geometry which

promotes lower vehicle speeds but the space made available for the provision of utilities may be increasingly

restricted. The design of the road and SUDS components should take into account the operation and

maintenance required by both individually and when considered together, so the design performance is not

compromised during maintenance activities.

a. Has sufficient guidance for SUDS to operate alongside utilities been given?

b. If not, what issues are not addressed?

Response

The larger majority of respondents were in agreement that this manual offered sufficient guidance on the interaction between SUDS and utilities. Whilst it was clear from responses that utilities continue to be a cause for concern in relation to the disruption and damage to roads in general and SUDS viewed as being of differing construction were easily damaged and potentially negating their efficiency. The Steering Group is satisfied that the manual adequately deals with this issue and that adequate controls are in place to allow authorities to manage the work of the utility companies. However mindful of the comments made in responses the Steering Group is willing to support the call for more work to be done with regard to the operation and maintenance of utilities and road network.

Question 16 – Consistency of practice in different parts of the country

Each Local authority in Scotland provides varying guidance on road construction for new developments. Is "SUDS for Roads" an acceptable companion document for this guidance, or is there a need for additional SUDS information relating specifically to new road development?

Response

Overwhelmingly respondents were in agreement that SUDS for Roads was an acceptable companion document to existing local roads standards documents and that again the vast majority agreed that additional information relating solely to new road development was not required. There was nonetheless a generality within responses highlighting the variety of

standards across the country and that the private sector in particular but also many local authorities felt that a national roads standards document for non trunk roads or urban and rural roads would be beneficial much comparison being given with the DMRB.

Delivery of such a further national roads document was seen as the purvue of a central body and indeed it is understood that SCOTS has already looked into this possibility. The Steering Group is willing to add this issue to the list of 'Recommendations for Further Action'

Question 17 – Any additional points

Please add further points you feel may be appropriate.

Response

Many of the additional points raised have been covered within the above responses and or included within the overall Recommended Future Actions.

RECOMMENDED FUTURE ACTIONS

The following is a list of suggested future actions that Central Government and Local Authority bodies may wish to consider promoting in furtherance of Sustainable Development and development at large where common knowledge is shared and by universal acceptance removes confrontation and delay within the approval processes.

There already exists a trend towards national policy standards and guidance within the promotion of public infrastructure and it is hoped that this can be further extended to those areas common to all authorities and in which the private sector also contribute.

Arising from the consultation specific to the production of this SUDS for Roads Guidance manual the Steering Group makes the following recommendations;

1 - Training

This consultation has revealed the need for additional training in all areas covered by this new guidance and that the guidance has played a large role in exposing this concern held by all the stakeholder groups. In addition there is clearly a significant skill gap currently existing within departments and with the departure through age of many knowledgable staff this is likely to deteriorate further in the future.

Recommendation 1

The steering group recommends that central government, stakeholders and academics work together to develop programmes for ongoing training in the areas highlighted by this consultation and to develop informed strategies to ensure that appropriately skilled staff both designers and contractors are available and accessible to all involved in the roads construction community throughout Scotland.

SUDS Working Party (SUDSWP) Response to the above recommendation:

Recommendation agreed. The SKINT (Skills Integration and New Technologies) training programme being carried out through the University of Abertay will begin the process of training to local authorities and others and was endorsed by SUDSWP. This training has some restrictions on where it can deliver due to the European Funding Award, but other sources of support will be sought. For details e-mail uwtc@abertay.ac.uk .

2 - Legislation

During the production of this guidance document many areas of current legislation were examined in order to provide clear guidance on implementation by a range of regulators. It is clear that much has changed recently with the introduction of new legislation and amendments to existing legislation.

It also became clear that existing legislation relating to roads in particular has uniquely not been brought up to date with regard to current thinking on how to address the water environment.

Recommendation 2

The steering group recommends that central government in consultation with local authorities consider whether it is now appropriate to modernise the Roads (Scotland) Act 1984 to bring it into line with new, emerging and amended legislation specifically with regard to the water environment.

SUDS Working Party (SUDSWP) Response to the above recommendation;

Recommendation agreed – although it was also agreed that this was beyond the scope of the project. Nevertheless SUDSWP agreed to write to the Scottish Government to offer participation in any future discussions.

3 - Policy

The responses gave much rise to comment from consultees that there was a strong need for Policy to be stated in the SUDS for Roads Design Manual. Whilst it was never the remit of the steering group for this document to recommend policy it is clear that there is a desire to ensure that the approach to SUDS implementation is even handed across the current 32 Roads Authorities.

Recommendation 3

The steering group recommends that the stakeholder bodies involved in this current exercise consider the benefits of firm policy statements and undertake to examine separately whether there is a need for policy to be included in a future revision of or production of additional guidance.

SUDS Working Party (SUDSWP) Response to the above recommendation;

SUDSWP agreed to;

- a) Determine the gaps in policy;
 - b) Explore the possibilities of updating Scottish Government Planning Advice Notes, and
 - c) Further responses may be delivered through development plans and river basin management plans,
- all within the scope of the stakeholders.

4 - Further Guidance

It is evident from this consultation that there exists to a degree a great many methodologies relating to procedures for adoption and implementation of roads under the Roads (Scotland) Act 1984.

Recommendation 4

The steering group recommends that the commissioning bodies of SUDSWP & SCOTS consider the benefits in general of a set of standards and procedural guidance applicable to non trunk roads and common to all authorities and examine how this may be delivered as a national document.

SUDS Working Party (SUDSWP) Response to the above recommendation;

Recommendation agreed. A commission by DEFRA and awarded to Atkins consultants is to look at all UK local authority guidance and therein, their stance on SUDS and road construction.

5 - Costs

A great many comments were received regarding the matter of costs in general, whole life costs and maintenance costs.

Recommendation 5

The steering group recommends that further work be undertaken by the major stakeholder groups to carry out a broad study of costs associated with this work and to address many of the concerns that are held. This consultation would provide an ideal source of information to facilitate the development of a brief for such a work and the group further considers that this work should be undertaken by academics.

SUDS Working Party (SUDSWP) Response to the above recommendation;

Recommendation agreed, with the proviso that the work may be performed by other parties as well as academics.