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Planning Services
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Turnberry

Our ref: CU-CRRS 10.03.21
Your ref: -

10 March 2021

Dear David,

Town and Country Planning Act 1990 (As Amended)
Re-submission of Full Planning Application relating to Proposed Installation of a Vehicular Testing and Research Facility on Land to the South of Cranfield Airport, Cranfield, MK43 0DJ

On behalf of 'Cranfield University' (the applicant), we hereby submit the above revised full planning application to Central Bedfordshire Council (the Local Planning Authority [LPA]).

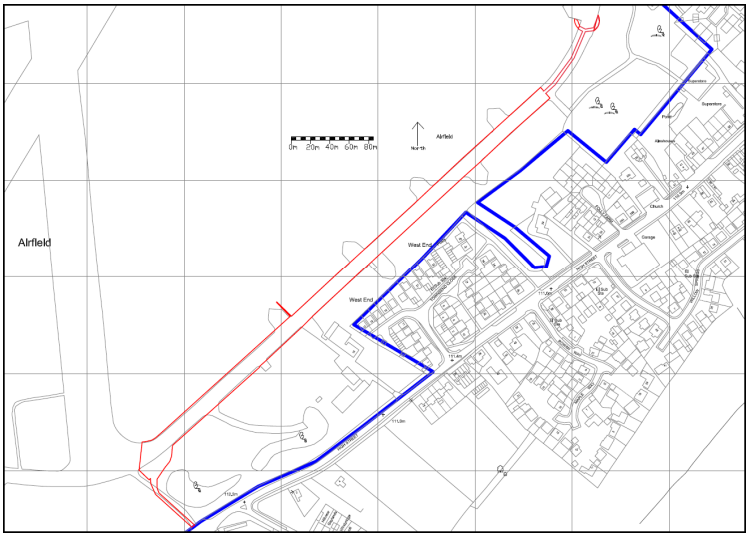
The application comprises of this cover letter and the following:

- Completed application form
- Noise Assessment (prepared by SRL)
- Data sheet of proposed concrete barrier
- Planning Drawings:
    - Site Location Plan (Drawing Ref. CRRS/2021/01)
    - Existing Site Plan (1 of 2) – Ref. CRRS/2021/04
    - Existing Site Plan (2 of 2) – Ref. CRRS/2021/05
    - Proposed Site Plan (1 of 2) – Ref. CRRS/2021/02
    - Proposed Site Plan (2 of 2) – Ref. CRRS/2021/03

As this is a resubmission of the previously withdrawn planning application CB/21/00125/FULL on 23 February 2021, we benefit from a 'free go' and thereby no application fee is applicable.

The application site comprises of the southern area of Cranfield Airport as shown in extract of the site location plan shown in **Figure 1** and that this area alongside the existing 1MW solar farm forms part of the non-airside part of the Airfield. Distance between the application site and the nearest residential properties at Townsend Close to the south of the Airport is approximately 32m.

Figure 1 – Site Location and Aerial View





By way of background, the previous planning permission CB/21/00125/FULL relating to the proposed vehicular testing and research facility was withdrawn on 23 February 2021 due to the lack of a supporting Noise Assessment. Cranfield Parish Council also formally objected to the application, which raised a number of operational-related queries and concerns. We agreed with the Case Officer that we will withdraw the application in order to submit a revised application with further operational information as well as to be accompanied by a Noise Assessment.

Given the need to obtain planning permission for the proposal as soon as possible in order to secure appropriate funding of the project, we have informed the Parish Council that we will send a copy of this application submission to them in advance and to appear at the next Parish Full Council Meeting on 17 March 2021 in order to address their previous concerns about the proposal and to provide further clarification. Note the representatives from the University; the Police (i.e. from the Forensic Collision Investigation Network [FCIN]); and the Noise Consultant (SRL) will be in attendance.

Need

Cranfield University, the FCIN and Highways England wish to collaborate to improve forensic methods in road accident investigation and the speed and effectiveness of clearing up after accidents. Conventional vehicle proving grounds are unsuitable for this experimental work due to their intensive use in vehicle development – the forensic work needs a site with particular controlled surface types where scenes and marks can be left in place and not disturbed by other users.

The FCIN have recently undertaken a project on skid characterisation with modern vehicles and road surfaces. This work has highlighted the limited availability of suitable test areas. The facility will enable further scientific support of the processes and standards used in roads policing, as well as before and after vehicular collisions. The application site will be used for staff training in a range of scenarios, marked out as a mock three-lane motorway. This helps to deliver individual competency assessment and accreditation.

For Highways England and in collaboration with the FCIN, the development proposal will enable opportunities for both agencies to look into vehicular related post-accident clean-up procedures in order to ultimately find ways to reduce road closure times / the need for secondary road closures.

Cranfield University has a well-established interest in safety and accident investigation training and research and are interested in using the site for road-related work to complement existing air, rail and marine related studies. This may include training investigators, research and validation of techniques and recreation of scenarios. Cranfield's Advanced Vehicle Engineering Centre has interests in tyre-ground interaction, especially practical validation using on and off-road facilities. This longer area of surface is complementary to other areas available for research and teaching. Highway lane markings are relevant to autonomous vehicle research in normal and accident scenarios.

Proposed Development

The proposed development is to use the former taxi-way of the Airport as a vehicular testing and research facility by Cranfield University and its partners (i.e. the FCIN and Highways England). Further information is set out in the Project Brief prepared by the University and that this is contained at **Appendix 1**. We would like to emphasise that this facility is important to the University's research purposes as well as to its partners and will bring into use an area of the airfield (i.e. previously developed land) that is currently under-utilised.

The proposed development (as shown in the submitted planning drawings) comprises of the following works:

- Re-surfacing of the existing concrete taxi-way to tarmac surfacing and that this includes smaller areas whereby new surfacing to tarmac is proposed.
- Installation of new protective barrier earth bunds of between 0.8m and 1.5m high and to be used as protective barrier during vehicular testing.
- Installation of move-able concrete blocks (0.8m high) to also be used as protective barrier during vehicular testing. See enclosed data sheet and that this or a suitable alternative concrete block will be used.

In terms of details relating to the operations of the proposed facility, these are as follows:

1. The new facility will be used by the Police's 'Forensic Collision Investigation Network' (FCIN); Highways England; and Cranfield University for vehicular testing and research associated with road surface materials, accidents investigation and response.
2. The facility will be used between 0800-1800 hours on Monday to Friday. For a significant

part of the year there is either no activity or *non-noisy* works proposed (i.e. activities not involving skid or collision testing). Due to the need for occasional training in night scene investigation (NB. this will involve a minimum number of participants and no noisy operations such as skids or collision testing), we propose to use the site for up to 10pm on occasional weekday evenings.

3. Noise generating activities will involve vehicular skid testing; and where specifically required by national bodies, collision testing that will involve one moving vehicle colliding against a stationary vehicle (see **Tables 1 and 2** respectively) with each accident scenario being meticulously planned in advance, thereby within a controlled test environment that will have appropriate safety barriers in place. The inclusion of limited collision testing is to satisfy a potential requirement of national agencies for a complete demonstration of a scene including surface scratching. Collision testing is not planned in the near future or a regular occurrence.

Table 1 – Skid Testing per Annum

Testing Scenario	Active Testing Period	Speed of Vehicles along Zone B before Skidding in Zone A (see Fig 2)	Estimated Duration of Skid Noise (per skid)	Max No. of Weeks per Annum where Skidding will Occur	Max No. of Skids per Week	Average Skids per Day
Method Validation Testing	Mon-Fri (8am to 6pm)	30-60mph	3-6 secs	3	75-115	35-40
Competency Testing	Mon-Fri (8am to 6pm)	30-40mph	3-4 secs	10	48	12
Method Witnessing	Mon-Fri (8am to 6pm)	30-40mph	3-4 secs	4	24	6

Note:

- *Method Validation Testing* - cars are fitted with new types of tyres from different manufacturers in order to test its skid effects under different road surfacing and weather conditions. In practice, there will be up to approx. 40 skids per day for one or two days before the vehicles are taken away for a few days to be serviced before the next batch of skid tests are carried out. This testing will only last for circa 3 weeks per annum.
- *Competency Testing* - this is for police training FCIN staff in investigating accident scenes. Typically skid marks from vehicles will be created at a speed of up to 40mph before the mock accident scene is created by placing

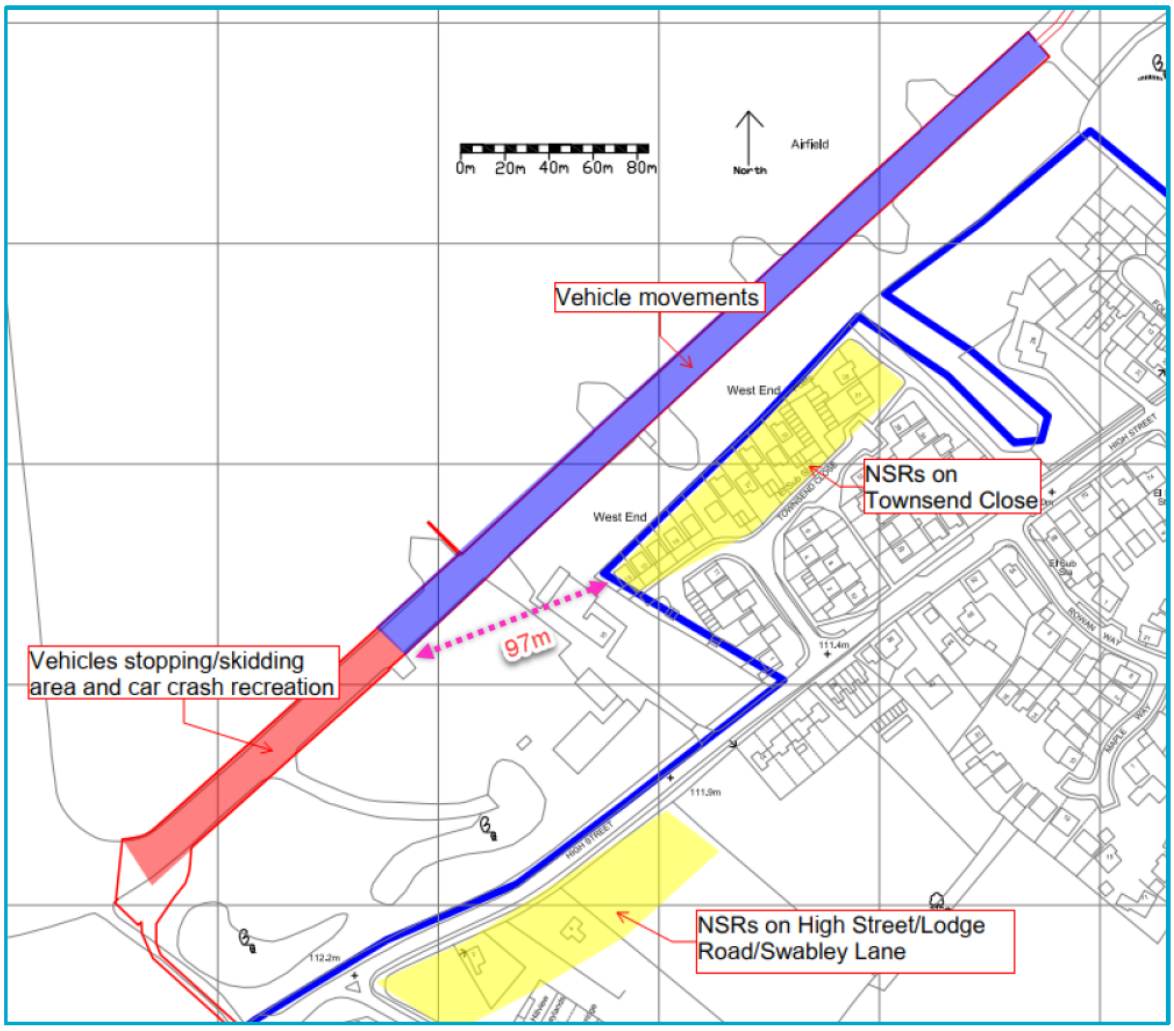
vehicles around the area where the skid is produced. This testing will only last for circa 10 weeks per annum.

- *Method Testing* - this is similar to Competency Testing but will be undertaken on a typical 1-week slot and at four times per year.

Table 2 – Maximum Collison Testing per Annum

Max No. of Collisions per Annum	Active Testing Period	Speed of Vehicles along Zone B before colliding with Stationary Object in Zone A (see Fig 2)
5	Monday - Friday (8am to 6pm)	40-70mph

Figure 2 – Extent of Vehicular Activities



Given we are currently unable to test the collision of vehicles and take noise data from such activity, we propose (as detailed in the submitted Noise Assessment) to accept a condition

whereby upon the first collision of a vehicle on site that a noise assessment be carried out to measure the noise levels generated by the collision and at up to 70mph. The Noise Assessment will need to be submitted to and approved in writing by the LPA prior to any further collision testing on site. We would also accept a condition whereby we will notify nearby residents (i.e. the NSRs as highlighted in yellow in Figure 2) within 2 weeks of a planned collision test to ensure local people will be fully aware of a collision test that will only occur up to 5 times a year.

In terms of addressing Cranfield Parish comments associated with the previous application (CB/21/00125/FULL) to which our responses are applicable regarding this application - this is set below with our responses. Shortly after the Parish Meeting on 17 March, we intend to issue an addendum to our cover letter setting out our further responses to be given at the Meeting.

a) No reference is made to the possibility of light pollution for after dark activities and simulations. What type of lighting will be used and how will it impact neighbouring properties?

Our Response: night-time related mock crash scene investigations will not involve any noisy operations such as skid testing or collision testing as this will only be carried out between Mon-Fri 8am to 6pm. Night-time activities will mainly be in the winter months when daylight is limited and we can use dark conditions at an earlier hour. We have set the latest operating time of 10pm as stated above. The lights to be used will only comprise of headlights from vehicles, torches (carried by staff for health and safety) and 2 no. of night searcher work lights (see image below). Night-time related activities will be carried out in the red zone (see Figure 2) along the western edge of the application site and will be appropriately distanced from nearby residential units (i.e. at least 97m separation distance from the western edge of Townsend Close. As the houses are north-facing, impacts of such low levels of lighting at separation distances at over 32m is not considered to be detrimental to the amenity of the occupiers of nearby residential areas).



b) The number of runs and re-runs required to achieve the correct tyre marks is not specified.

Our Response: the FCIN has confirmed this to be 1. The Method Validation Testing as shown in Table 1 investigates the different types and range of tyre marks. The competency and Method Witnessing work requires a much smaller set mainly to demonstrate the techniques used to verify road friction at a scene.

c) There is no risk assessment for the safety of vehicles building up speed 35-50 metres away from residential properties.

Our Response: we would clarify as follows.

There is a minor risk, but it is lower than the risk from vehicles on a road passing houses or pedestrians and that:

- The vehicles are being driven by trained and experienced drivers (in some cases specifically police trained drivers), focussed on a single short run. There is no question of distraction.
- The vehicle operations are in daylight in the normal working day. There is no issue of tiredness or impaired visibility.
- There is no oncoming traffic – the majority of the work uses a single vehicle moving at any one time. Where there is a second vehicle (when used during collision testing), its motions will be expected and known to both drivers.
- Vehicles used by investigators for skidding are regular police vehicles receiving full maintenance and inspection, arguably to a higher standard than many private vehicles.
- The course is straight, perpendicular to the nearest houses along Townsend Close and at approx. 32m separation distance) – there is no corner which requires steering or grip. The natural tendency of the vehicle is to continue straight.
- The scene area where skids/collisions will be conducted (i.e. see Figure 2, red zone) is away from the houses and is proposed to have earth berms at the side to further constrain vehicles to the tarmac.

d) The type of vehicle to be used in tests is not specified which brings into question the validity of any noise assessment?

Our Response: types of vehicles to be used for skid testing will range from standard cars to a Light Goods Vehicle (LGV). For collision testing, this will be using standard cars. It is noted that a HGV as well as a forklift truck may be used on site but its purpose is to only be stationary (i.e. idling) or driving along the road surface to test for aerodynamics and will not be used for either skid testing or collision testing. Please see the submitted Noise Assessment which has taken this activity into consideration.

e) The proposed location, just 35 metres from neighbouring residential properties which is not acceptable. What other sites were considered, if so which ones and why were they not considered appropriate? If no other sites were considered, why not?

Our Response: there is no requirement under planning policy to undertake a sequential test on site selection for such testing facility. This site has been selected as it can accommodate such facility and is of a good size to enable appropriate vehicular testing. It also brings this part of the non-airside part of the Airfield into use as it is currently under-utilised. The submitted Noise Assessment demonstrates that the impacts are acceptable from a noise perspective. In addition, it is noted that the site is the only under-utilised area of the Campus/Airfield that is more than 300m in length (the testing facility needs to be at least 500m in length to enable the range of testing required).

f) The application fails to consider that the 'Crash Zone' whilst away from the houses in Townsend Close, is within 100 yards of houses on the High Street/Lodge Road.

Our Response: see submitted Noise Assessment.

g) Is there a risk of explosion with crash simulations?

Our Response: None.

h) What speeds will vehicles be tested at given that motorway speed is over 50mph?

Our Response: see Tables 1 and 2 above for further details.

i) Can the University publish the report which states that there is a postcode lottery of whether investigations are carried out to the correct procedures?

Our Response: No such list exists. The point is that the Police are working towards greater standardization and continuous improvement of investigative techniques across England and Wales. This is a major development involving scientific studies, professional development and process certification.

j) How many people will be on site at any one time, during the day and or evenings?

Our Response: up to 9 no. of staff will be on site per day.

k) Why was the 'supporting report' which provides additional information about the application not published?

Our Response: the supporting cover letter was submitted with application CB/21/00125/FULL but the LPA did not initially upload this onto their website. We note the LPA uploaded the cover letter at a later date.

l) **How safe are the chemicals that will be used to clear up the crash sites, will they emit odours?**

Our Response: appropriate spill control measures will be deployed where necessary and we will ensure no engine oils etc will be leaked into the soil. See **Appendix 2** containing a copy of the Spill Control Plan.

m) **There was no information in the application about how the crash / test area is to be accessed by the numerous vehicles involved, including low loaders to take away smashed up vehicles. Will this be across the airfield or from the High Street by the narrow entrances onto the airfield. What effect will this have on the high street traffic and the housing on that road.**

Our Response: as a maximum of 9 people will attend site in a day, there will be no appreciable impact on traffic, even with the addition of a low-loader, which will only be required on a handful of days through the year

n) **In terms of noise the residential properties concerned already have to tolerate very high noise levels from testing of jet engines over this side of the airfield which can last for an hour or more. Any noise assessment should consider the combined noise of those jet engines together with the noise from the racetrack/ skid pan/crash site as there is no proposal to ban any jet engine testing whilst the vehicle testing facility is in use.**

Our Response: this is addressed in the submitted Noise Assessment.

We trust the application can be validated as soon as possible and for the application to be determined within 8 weeks as per previous application CB/21/00125/FULL.

Yours sincerely,

Wai-kit Cheung

Turnberry

Appendix 1

Project Brief

Cranfield Reference Road Surface Facility

Project Outline

To provide an area of multiple-carriageway road surface to the south-eastern edge of Cranfield Airport for research, validation and training activities.

The area is to be approximately 550m long, 14m wide and will include specific tarmac surfaces relevant to types used on UK roads.

The aim is to provide a simple and flexible facility where methods for forensic investigation can be developed to stay current with technical developments, investigators can be trained and vehicle components validated. It will allow scenes to be created and used over a period of days which is not economically possible in the intensive, multiple concurrent user environment of existing automotive proving grounds. The simplicity allows multiple user groups to benefit for a range of applications.

Users – Founding Partners

The Police – Forensic Collision Investigation Network (FCIN)

The FCIN have recently undertaken a project on skid characterisation with modern vehicles and road surfaces. This work has highlighted the limited availability of suitable test areas. The facility will enable further scientific support of the processes and standards used in roads policing, as well as before and after vehicular collisions. The area will be used for staff training in a range of scenarios, marked out as a three-lane motorway. This helps to deliver individual competency assessment and accreditation.

Highways England

Through collaboration with the FCIN, the site and subsequent testing present an engagement opportunity for both agencies, looking into post-accident clean-up procedures, with a view to reducing closure times/the need for secondary closures. Scenes can be reproduced and various procedures and materials evaluated without the time pressure of a public road or cost of an automotive proving ground.

The area is also available for staff training in a range of scenarios, marked out as a three-lane motorway. This helps to deliver individual competency assessment and accreditation.

Cranfield University

Cranfield University has a well-established interest in safety and accident investigation training and research and are interested in using the site for road-related work to complement existing air, rail and marine related studies. This may include training investigators, research and validation of techniques and recreation of scenarios.

Cranfield's Advanced Vehicle Engineering Centre has interests in tyre-ground interaction, especially practical validation using on and off-road facilities. This longer area of surface increases the speed range safely available for tyre, motorsport and automotive work. Highway lane markings are relevant to autonomous vehicle work in normal and accident scenarios.

Site

The site is provided by Cranfield University on their main campus that includes Cranfield Airport. It will re-purpose an existing taxiway, which lies outside the current airfield boundary. Site location 52.066686N, 0.617875W.

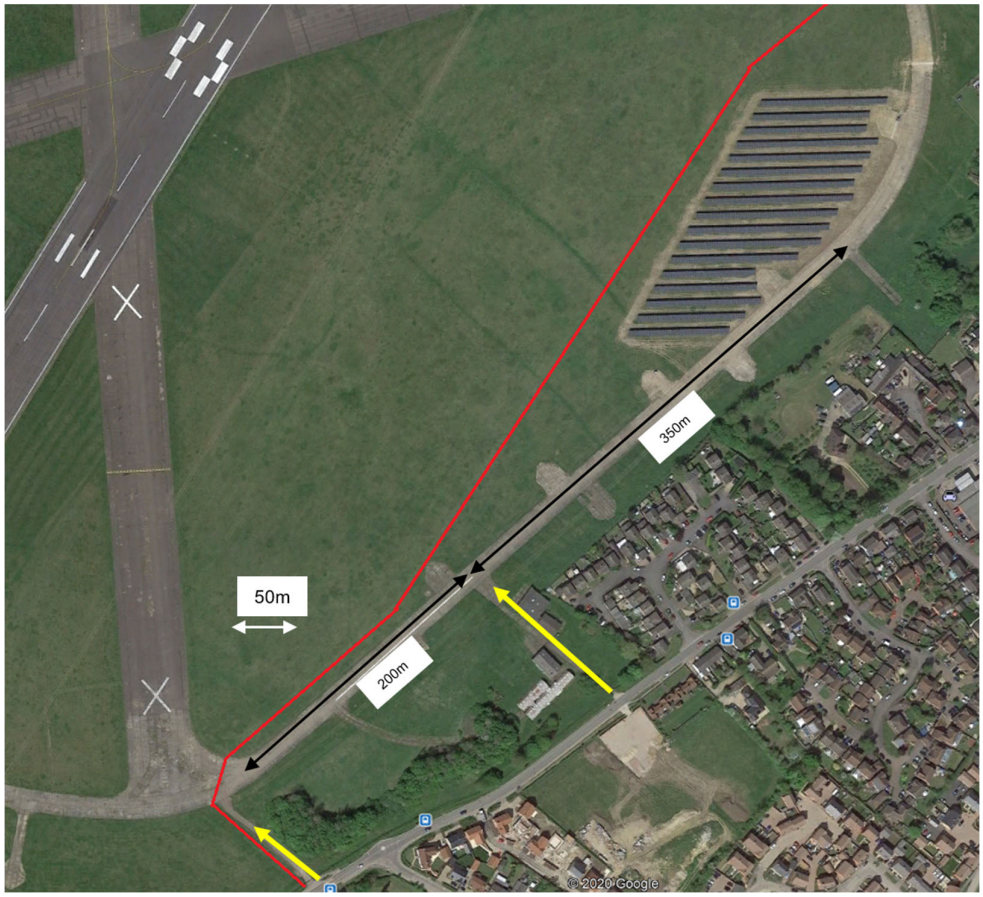


Figure 1 General area of site

Special surfaces will be laid in 100m of the 200m section to the south west behind trees, away from housing. This is the area for scene recreation work.

Key requirements in site selection were for an existing road which can be resurfaced and made available for a period of several years. The length must be at least 500m to allow space for the activities. This area is the only such space currently available on the Cranfield site. Others are around 300-350m maximum or constrained by other facilities.

The existing broken concrete surface (Figure 2) will be resurfaced with a new tarmac surface. We have recent experience with similar renovation of parts of the MUEAVI facility that were previously airfield.



Figure 2 - Existing surface

Surface and Facilities

Users have identified three specific surface treatments of particular interest, representing surfaces in use on UK roads.

1. Stone Mastic Asphalt 60 PSV
2. Hot Rolled Asphalt with pre coated chippings
3. Stone Mastic Asphalt with high friction coating to clause 924

It is proposed these could be installed as parallel 100m lengths toward one end of the track, with a short run-on area beyond. Vehicles can accelerate in the main length and then pick the surface required. The rest of the area is surfaced in the first type of material

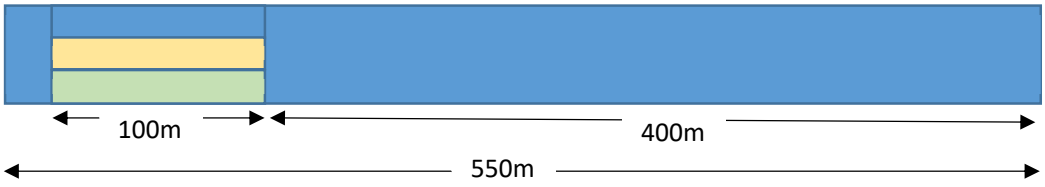


Figure 3 - Arrangement of surface types

The surface will be lined with standard three-lane highway markings as defined by Highways England. No budget is allocated for road studs but these can be installed later.

The facility is focussed on the road surface – no new buildings are proposed.

Mains electricity will be provided from the outside of an existing building at a caravan type hookup point. This will support temporary use by test teams in their own vehicles, and basic electric vehicle charging. Water for road wetting will be brought from the main site if required, using recycled rainwater when possible.

Cranfield are investigating options for provision of the Eduroam Wifi service in the area.

The existing taxiway has a simple soakaway drainage system to the side and this will be used as-is. No significant increase of hard surfacing is proposed.

Cranfield will support the facility with vehicles and staff from the existing campus site.

Hours of Operation

The proposed operational hours of the new facility are Monday to Friday 08:00 to 6:00 PM. No work on weekends or public holidays. The proposed work programme anticipates around 100 working days a year for FCIN plus 10-20 for Cranfield and Highways England.

FCIN have an occasional requirement for training investigation after dark. This will be mainly in the winter months (and so within normal hours), but in the event it is needed in the summer there will be no work after 10pm. Noise will be kept to a minimum out of normal operational hours, without skidding or crashing tests. No general scene lighting is anticipated, and ground level vehicle or work lights would be in the south western surfaces area away from housing.

Site noise and activities

A large proportion of the work is quiet, with investigators on foot or slow moving vehicles investigating a fixed scene or road marks. Some work will involve police vehicles braking hard (this is a standard method to measure road friction), with possible tyre noise for a few seconds in each test. This is directed at the south western, airfield end, away from housing. This will not feature every day, when required it would typically be 1-5 times per day to establish a scene or marks. If a specific test requires these skids or high speed work it will be within normal working hours only, for a few days at a time.

Vehicles driven on the site are operated in a straight line by trained, experienced drivers focussed on the task in hand so there is little risk of them leaving the road on the run-in. Generally police vehicles are maintained to a very high standard. Any vehicles used for scene recreation which are not on the road would be inspected for safety before being used.

Earlier discussion for the site proposed some physical impact testing of cars into static obstacles, as FCIN have done this on other sites. After consideration of the Cranfield site characteristics and test needs this activity is being removed and will be undertaken elsewhere. The only exception is if FCIN are required by Highways England to do a very small number of tests to validate road damage markings – this would require the precise surfaces being laid for the other work to be used. This is not planned before 2023, and would be 1-5 vehicles per year, more likely one or two due to the costs and time required.

Drainage and runoff.

The proposal does not significantly change the area of hard surfacing, as it re-uses the existing concrete roadway. This has an established soakaway trench to the side of the road, entirely within the site. We do not propose to modify this system.

It is the intention to prevent any oil or vehicle fluids released on the surface from leaving the tarmac.

Tests which can release fluids will be bounded with absorbent before or immediately afterwards, with cleanup to established Highways procedures. One research area is developing procedures to improve cleanup and national agencies with responsibility for the topic are part of the team.

Environmental performance will be monitored by the university team as part of the established ISO14001 accreditation.

Site vehicles

The number of vehicles kept on the site will be actively managed, with a maximum of six kept on site. Any others being staff vehicles leaving in the evening. Scrap vehicles will be removed from site within a week of testing to keep it clear and tidy.

Appendix 2

Spill Plans

Spillage

CU-SHE-PROC-3.13

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2 Scope 1

3 Definitions 2

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5 Training and Competency 3

6 Procedure 3

7 Review 6

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1 Purpose

1.1 The purpose of this procedure is to provide a framework to assist Cranfield University in the effective and efficient management of spillages. The University holds a range of chemicals, oils and fuels and this procedure outlines practices to follow in order to prevent spillages as well as the requirements to prepare for a spill. Should a spill or leak of any dry or liquid substance or gas occur, the procedure describes the actions that must be taken to ensure that they are contained and cleaned up in way that minimises harm to human health and pollution to the environment.

2 Scope

2.2 This procedure applies to all staff, students, contractors and sub-contractors working on behalf of Cranfield University. There are a wide variety of internal and external activities occurring across three sites (Cranfield Campus, Cranfield Airport, CDS at Shrivenham and CDS at COTEC). This procedure applies to all, but may be supplemented by MOD requirements where appropriate (CDS).

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3 Definitions

3.1 **Minor Spillage:** A spillage of up to one litre of a substance with no unusual properties.

3.2 **Medium Spillage:** A spillage of between one and twenty five litres. The action taken will depend on the volume of the room involved, the ventilation and the local risk assessment. If you are unfamiliar with the local protocol for such a spillage in a particular area, follow the major spill procedure.

3.3 **Major Spillage:** A spillage of more than twenty five litres or a spillage of a substance that exhibits unusual properties.

3.4 **Unusual Properties:** Highly hazardous due to high toxicity, corrosive properties, biohazard, reactivity, flammability or environmental hazard.

3.5 **NSM:** Nominated Safety Manager

3.6 **MSDS:** Material Safety Data Sheet

3.7 **Emergency Controller:** Staff member appointed to manage serious incidents by the relevant Director.

3.8 **SHEL:** Safety, Health and Environment Log

3.9 **Spill Responder:** A member of staff with sufficient knowledge of the substance involved to enable them to safely deal with the spillage.

3.10 **Principal Investigator:** Member of academic staff who is the holder of the project funding for the activity that resulted in the spillage.

3.11 **CDS:** Cranfield Defence Shrivenham

4 Responsibilities

4.1 The Emergency Controller has responsibilities outlined in the Critical Incident and Business Continuity Management Procedure (CU-SHE-PROC-3.23)

4.2 PVC Schools or Director of PSU is responsible for ensuring that:

- Competent staff are in place to deal with spill situations, sufficient to the nature and quantity of materials kept and that materials are correctly packaged for disposal
- Staff are aware of the need to complete an incident report following a spill
- Risk and COSHH assessments are in place, reviewed regularly and in the event of an incident, revised in order to prevent a re-occurrence of the incident
- Identified corrective and preventive actions are agreed and completed

4.3 Director of Facilities is responsible for ensuring that:

- Contractors (term or temporary) are made aware of the procedure for spillages and that the host ensures that the appropriate spill kits etc. are available for the work undertaken
- The arranging and management of periodic testing of the spill response procedure across Cranfield campus

4.4 **Note:** At the Shrivenham campus the management of contractors is the responsibility of the Campus Integrator – Serco and at COTEC responsibility for the management of contractors rests with the Director of Operations.

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4.5 If works are to be carried out within a SHEL area (Cranfield campus), it is the responsibility of the Facilities host to ensure that spill kit provision for the work is adequate – this will require liaison with the NSM for that area.

4.6 The Health and Safety Manager is responsible for ensuring that:

- Reports required by the HSE e.g. RIDDOR are completed

4.7 The Energy and Environment Manager is responsible for:

- Ensuring the Environment Agency or relevant authority is notified where a pollution incident has occurred or other external bodies where external assistance is required. A critical environmental incident where considerable pollution has entered watercourses must be notified as soon as possible the same day
- Safe removal of waste from site resulting from a spillage

4.8 Security (Cranfield campus) are responsible for:

- Providing a manned emergency contact telephone, twenty four hours a day, 365 days of the year; providing support as requested and required by the relevant response teams
- Liaising with the emergency services in terms of directing these to the necessary locations
- Where the situation relates to CDS, notifying the Shrivenham Guard House and/or the MOD Pollution Control Officer

5 Training and Competency

5.1 In SHEL areas, spill training appropriate to local requirements e.g. the use of relevant spill kits for staff/students handling substances) must be given to those working in the area as part of the induction process. This should be carried out by an experienced and knowledgeable member of staff e.g. Nominated Safety Manager, Lab or Workshop Manager.

5.2 Facilities and PSU staff who host contractors or who work with hazardous substances that may spill must attend Spill Response training courses, and refresh their training every three years.

6 Procedure

Spill Prevention

6.1 Local processes and operational procedures should be developed and regularly reviewed to minimise the likelihood of spills occurring.

6.2 Measures to prevent spills include:

- Keeping stock chemical quantities on site to the minimum that is reasonably practicable
- Ensuring hazardous substances are within their shelf life as detailed in their MSDS
- Using appropriate containment and equipment when decanting, and when transporting substances both within designated SHEL areas and outside of them
- Organising workspaces to ensure safe transport routes for substances, which should include minimising the distance that substances are carried over where possible
- Regularly maintaining equipment to prevent leaks

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Spill Preparedness

6.3 Spill procedures for individual chemicals must be detailed in the COSHH and Risk Assessments (RA) completed prior to work commencing.

6.4 Risk and COSHH assessments should include the transportation of chemicals not only around campus e.g. moving chemicals between buildings or even labs within a building but also consideration should be given to external transportation, not only around campus but also further afield e.g. fieldwork.

6.5 All areas, including SHEL areas and areas controlled by Facilities (SERCO/ESS in Shrivenham) that contain materials that have the potential to spill (including areas controlled by contractors) must contain clearly labelled, accessible spill kits suitable for the range and volume of chemicals/substances used or stored in the area. These spill kits must be regularly checked and monitored.

6.6 When transporting substances beyond designated SHEL areas, appropriate spill kits must accompany the substances

6.7 All SHEL areas must clearly display the relevant flowcharts in Appendices A/B/C and provide contact details of responsible competent persons for the area.

Spill Response

6.8 Each spillage event is unique and therefore dynamic risk assessments will be required. The assessment should establish whether the spillage/leak can be dealt with locally or if escalation is necessary

6.9 To determine what response is needed consider the volume, location of spillage and hazards associated with the substance (either to human health, buildings, equipment or the environment) e.g. small volumes with unusual properties or acute toxicity may elicit a response requiring major intervention.

6.10 Potentially the spillage may be sufficiently significant to warrant the activation of the Critical Incident and Business Continuity Management Procedure and involve external agencies such as the Fire Brigade.

6.11 Additional advice can be obtained from the H & S department and in the case of an environmental incident (substances entering the ground, a drain or watercourse) the environmental advisor (at CDS the COSHH adviser can offer local assistance)

6.12 Minor spills or low risk medium spills should be able to be attended to ‘in-house’ by following the control measures stated in the appropriate COSHH /risk assessment.

Immediate actions upon discovery of a minor/ medium leak/spillage

6.13 Follow the spill response flow chart in Appendix A (Cranfield Campus), Appendix B (Shrivenham) or Appendix C (COTEC). Act immediately.

6.14 Lock down or cordon off the area to prevent others from coming into contact with the spill.

6.15 If possible and **safe** to do so, take appropriate immediate steps to reduce the risk. These may include:

- Provide ventilation to the affected area
- Control ignition sources
- Prevent spill from going down sinks

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- Prevent spill from going down external drains (unless at Shrivenham where drains are intercepted)
- Prevent spread of the spill using materials from the local spill kit
- Stop the leak/spill at source if possible e.g. close any open valves, stand containers upright, call appropriate personnel to switch-off equipment

Managing the Spillage

6.16 If you are not confident to manage the spillage, call the competent person identified on the spill response flow chart in your SHEL area. This person will assist in developing a plan of action to deal with the spill. This will have been considered in the COSHH assessment for the activity/area. If a spill is discovered in an area not covered by SHEL inform security on 2222 at Shrivenham and Cranfield and COTEC offices on 222 at COTEC.

Guidance on the use of spill kit items:

- Ensure the appropriate absorbent material for liquid spills is used

  Application:

  - When applying a granular absorbent material, slowly add the absorbent material on and around the liquid to absorb the chemical. Work from the edge to the middle of the spillage in order to reduce splashing and spreading.
  - Avoid using too much absorbent material at one time
  - Sweep up the spill from the edge to the middle

  Disposal

  - Scoop the contaminated absorbent material/pads into a leak-proof container for disposal as hazardous waste.
  - Label the container with the contents and ensure they are disposed of appropriately i.e. in compliance with the Laboratory Waste Management procedure (CU-ENV-3.05 (if in the laboratory) or with the relevant Hazardous Waste Disposal Procedure CU-SHE-PROC 3.06 for Cranfield campus.
  - Wash the contaminated area with soap and water

6.17 All other materials and waste items (including PPE) used in the control of the spillage must also be disposed of as hazardous waste.

6.18 Notify the relevant person (below) as to which spill kit items have been used so they can be replaced:

1) Cranfield Campus: the NSM, Lab Manager or Facilities Host
2) Shrivenham Campus: Lab Manager or SERCO as appropriate
3) COTEC: The Director of Operations

Immediate actions upon discovery of a major chemical or substance spillage (unusual properties* or large volumes – see definitions pg. 2.)

6.19 In the event of such a spillage, in addition to the actions in 4.3.1:

- **On Cranfield campus:** security should be informed immediately by phone on 2222. They will escalate to an Emergency Controller if necessary.
- **At Shrivenham:** the MOD Pollution Control Officer must be informed by phone on: 2222
- **At COTEC:** Phone COTEC offices on 222

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6.20 Should the spill be deemed sufficiently serious, the incident management will be taken over by an Emergency Controller. The response team will review risk assessments and safety data sheets in order to agree a plan of action. Where it is decided that the incident can be dealt with in-house, the Health, Safety and Environment teams will provide advice on best practice.

After the incident: Reporting the leak/spillage

6.21 After the incident, the local NSM or Facilities Host must complete an incident report form and return to incidentreport@cranfield.ac.uk

7 Review

7.1 This procedure will be reviewed every three years or before if it is evident that changes are required.

8 Appendices List

Appendix 1 – Spill response flow chart. Competent local spill responder:

Appendix 2 – Spill response flow chart. Competent local spill responder - Shrivenham

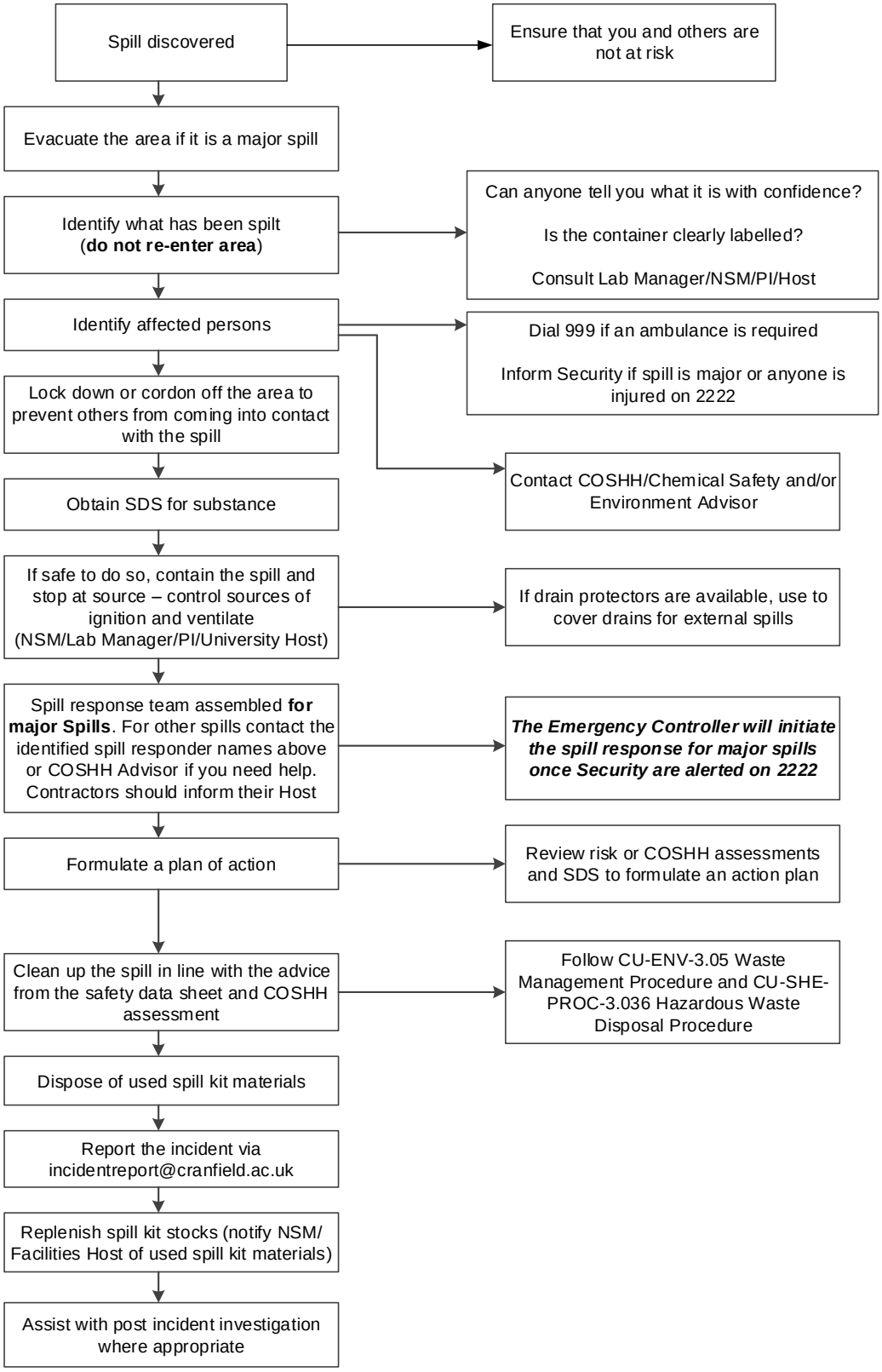
Appendix 3 – Spill response flow chart. Competent local spill responder – COTEC

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Appendix 1

Spill response flow chart. Competent local spill responder:

Name and phone number: .....

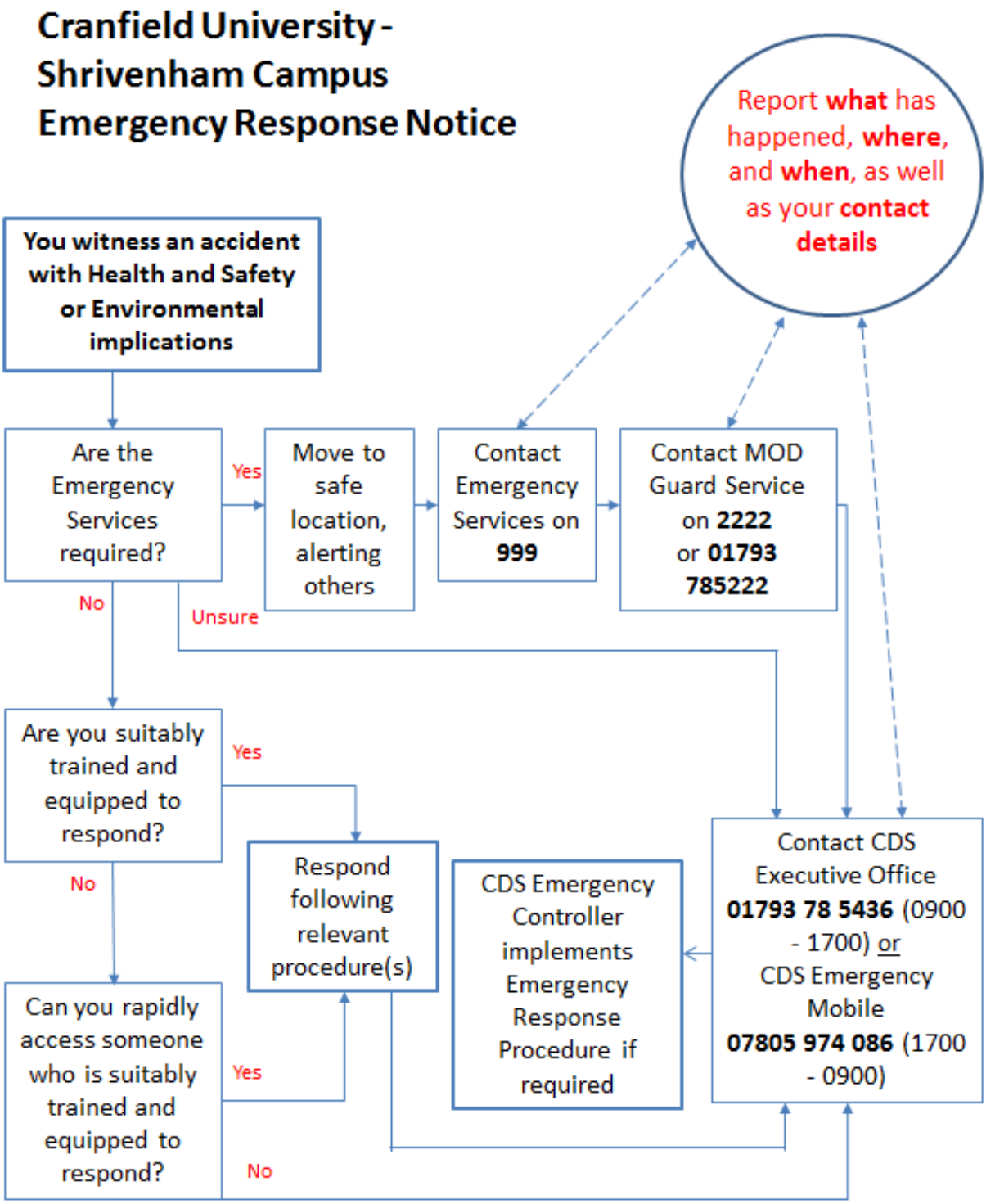


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Appendix 2

Spill response flow chart. Competent local spill responder Shrivenham

Name and phone number: .....

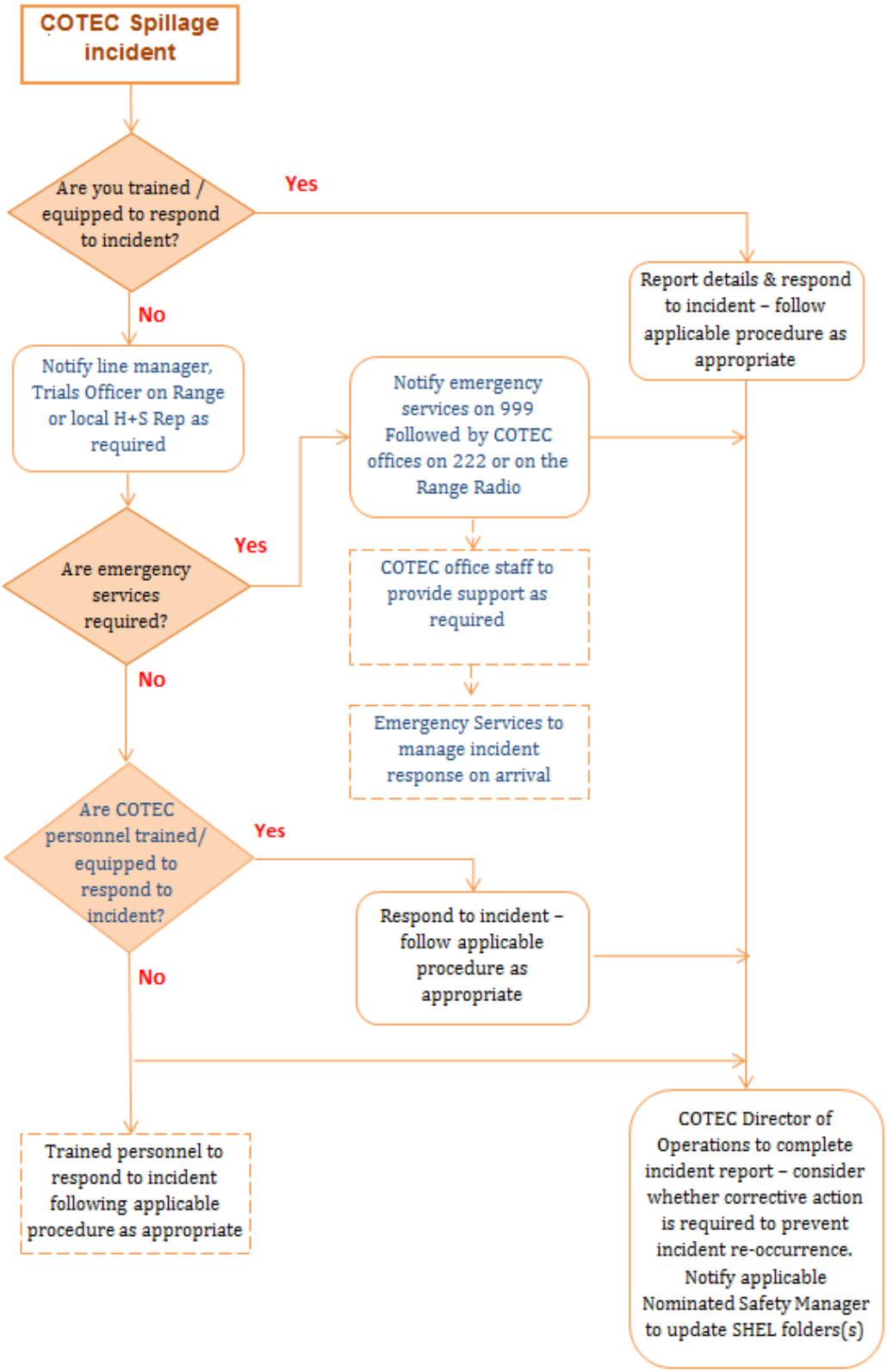


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Appendix 3

Spill response flow chart. Competent local spill responder – COTEC

Name and phone number: .....



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9 Document Control

Document title	Spillage (was Spill/Leak Containment)
Document number	CU-SHE-PROC-3.13
Version number	V4.0
Originator name/document owner	Rosie Burns / Ginny Ford
Professional Service Unit/Department	University Health and Safety Department / Facilities Environment
Implementation/effective date	08 October 2013
Date of last review and version number	08 October 2013 V3.0 (was CU-ENV-PROC-04)
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Date of next review	11 January 2021
Standards reference	OHSAS 18001:2007
Signature	
Name	Simon Jones
Title	Chair of CUHSC

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1.0 Intent

This Safe System at Work provides guidance for dealing with spillages on the network.

2.0 Definitions and Responsibilities

This document relates to works undertaken by direct employees of Kier Highways including agency staff using plant owned or hired by Kier Highways on a self-drive basis in accordance with SHEMS-STD-GR-057 Vehicles, Plant and Equipment - PUWER. It does not relate to works done by sub-contractors.

The appropriate Standards have been referenced throughout this document and must be adhered to in association with this SSOW.

The supervisor for the works is responsible for planning work, preparing appropriate H&S information and generating necessary Permits to Work.

The supervisor for the works is responsible for ensuring suitably trained & competent personnel are allocated to a task and that the necessary briefings have been completed.

The ganger is responsible for the safe & efficient completion of the works once it gets to site.

This document is not intended to duplicate information and experience gained through recognised internal or external training courses.

3.0 Planning

Dealing with spillages on the carriageway is a reactive activity with the need being generated from observations reported by Kier Highways staff, the client or members of the public.

In carrying out this activity it will be necessary to undertake dynamic risk assessments where the nature of the spillage differs from the original description resulting in a change to the planned method of containment and clear up.

Operatives undertaking this type of work must therefore be suitably trained and competent in undertaking these assessments.

Temporary TM requirements should be determined (in accordance with the Kier Highways Standard SHEMS-STD-GR-092 Traffic Management Design) by a specific risk assessment, considering the location and nature of the spillage, the road type and layout, traffic volumes and duration of the works.

All spillages must be disposed of in a location and manner that is appropriate to the nature of the material and by those organisations best qualified to do so.

Hazardous materials must only be handled and disposed of by specialist contractors in accordance with Kier Highways Standard SHEMS-STD-GR-051 COSHH.

4.0 Procedure - Working Method for dealing with Spillages

- Personnel involved in dealing with spillages should be competent and familiar with this type of work.
- Personnel involved in dealing with spillages should be competent and familiar with the plant and equipment to be used.
- Personnel involved in dealing with spillages should be competent and familiar with working on the highway.
- Personnel involved in dealing with spillages must wear the appropriate level of PPE for the task.
- There may be situations where the spillage is not as originally described and requires a change to the methodology to be employed. In these instances the Ganger must complete a work place risk assessment and agree the change to the methodology prior to starting work. These changes must be briefed to all prior to undertaking the work.
- Ensure plant operators have an effective means of communication (e.g. hand signals) and it is understood by all parties.
- Ensure safe distances are maintained (approx. 5m) from working machinery.
- All spillage materials must be safely transported and appropriately disposed of in a licenced waste facility by the appropriate organisation.
- Some spillages may contain hazardous material. The nature of this material may be able to be ascertained from the Hazchem labelling. Detail must be phoned into the local control centre so that advice can be sought over whether specialists are required to undertake the clear up.
- Some spillages may be flammable. Unless confirmed as non-flammable the area must be designated no smoking and treated as a potentially explosive atmosphere.
- Confined spaces must not be entered into unless it has been confirmed that the atmosphere is safe using the appropriate testing equipment.

5.0 Review & Monitoring

This document should be reviewed every year.

Activities should be monitored on a regular basis as part of the relevant Contract inspection programme.

6.0 Safe System of Work Briefing

Highway Maintenance workers are at a high risk of injury through coming into contact with Hazardous material and from being exposed to traffic on the highway.
Safety is the number one priority and so simple control measures will protect against the cause of accidents and injury.

7.0 Do's and Don'ts

- **Do** ensure that you have been properly briefed before commencing works.
- **Don't** operate plant and equipment unless trained and competent to do so.
- **Don't** use any plant and equipment if it is faulty.
- **Do** ensure that you are wearing the appropriate level of PPE before commencing works.
- Where the nature of the spillage differs from the original description the Ganger must complete a work place risk assessment prior to starting work and ensure any changes to the methodology are briefed to and understood by all.

- **Do** ensure there is an effective means of communication between plant operators and operatives and that it is understood by all and suitable for the work conditions.
- **Do** exercise good hygiene.
- Additional PPE may be required. This requirement should be assessed prior to starting works.
- **Do** assume that the spillage is flammable unless advised otherwise.
- **Don't** enter any confined space unless it has been tested and the atmosphere confirmed as being safe.
- **Do** where possible approach a spillage from uphill and upwind direction.
- If it is possible to determine the nature of the spillage from a Hazchem label this must be reported to the local control centre.

8.0 Associated Documents

SHEMS-RA-HIG-S07-Spillages
SHEMS-STD-GR-051 COSHH
SHEMS-STD-GR-057 Vehicles, Plant and Equipment - PUWER
SHEMS-STD-GR-092 Traffic Management Design