

CH P805 Contract Sampling Plan for Waste Classification and Assessment

Peterborough Highway Services Term Maintenance Contract, Cambridgeshire Highways Term Maintenance Contract and MI Engineering Solutions

Revision Control Schedule

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Contract Information

Contract name:	Peterborough Highways (PHS), Cambridgeshire Highways (CHS), Milestone Infrastructure Engineering Solutions (ESOL)
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Date prepared:	January 2022
Prepared by:	Henry Fenn
Prepared for:	MI and Peterborough City Council, MI and Cambridgeshire County Council and MI ESOL

Preparatory Steps, Involved Parties and Intended Use

This document has been prepared by MI (Contractor) in partnership with Peterborough City Council (Client), Cambridgeshire County Council (Client) and MI ESOL.

MI Operations Manager	MI Environment Manager	MI Waste Champion	Laboratory (samplers and analysers)	PCC/CCC MI Representatives	Designer
Graham Dodes (PHS) Richard Kingston (CHS)	Anna Harries	MI Environment Team	Chemtest Ltd		MI

Intended Use

This Sampling and Analysis Plan is to be implemented by the Clients, MI and MI Supply Chain.

Responsibilities

Role	Organisation
Preparation of the of the Sampling Instruction Form at Design Stage	PCC/CCC Designer or MI Designer
Classification of material – providing sample and sample pots	MI
Classification of material – laboratory analysis and interpretation of results	Chemtest/MI

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Sampling of waste arisings from works delivered under this term maintenance contract will be undertaken in line with the 'Advanced Testing Matrix' identified in Appendix A.

All waste streams should be sampled as specified in Appendix A to inform design, ensure relevant health and safety measures are implemented, and ensure compliance with waste legislation by appropriate classification prior to construction works.

The 'Advanced Testing Matrix' has been developed between MI and Peterborough City Council/ Cambridgeshire County Council taking consideration of:

Relevant Legislation	Contract Documents	MI and Client policies
- Environmental Protection Act 1990 - Environmental Permitting (England and Wales) Regulations 2016 - The Waste (England and Wales) Regulations 2011 - Duty of Care Code of Practice - Classification, Labelling and Packaging (CLP) Regulations - Hazardous Waste Regulations - CDM 2015	- Peterborough Highways Term Maintenance Contract - Cambridgeshire Highways Term Maintenance Contract	- MI Environment Policy - MI Waste Management Guidance EHS 040 G01

Additional Documentation/References

Documentation

A generic set of practical instructions and sampling methodology have been produced for this activity:

- Highways Risk Assessments (48.00 IS HS)
- Sampling Instruction Form

References

- WM3 Technical Guidance – Guidance on the classification and assessment of waste
- ADEPT Guidance Note– Managing Reclaimed Asphalt – Highways and Pavements (Version 1 2019)

Objectives

This plan has been prepared to:

- Outline the approach for sampling, analysis and classification of waste arisings generated from work streams delivered on this contract
- Ensure sufficient information is obtained on the nature, composition and properties of waste arisings generated from work streams delivered on this contract
- To determine an appropriate European Waste Catalogue code (EWC) and assign any hazardous properties
- Outline responsibilities for waste testing, analysis and classification to help further determine the appropriate documentation and waste management controls that apply
- Provide background information on the technical aspects of waste characterisation
- Ensure compliance with relevant guidance and legislation in line with Technical Guidance WM3
- Ensure the Waste Hierarchy is applied at design stage

Technical Goals

- Identify if the waste is a mixture of two or more wastes or subpopulations
- Identify which hazardous substances or persistent organic pollutants are present
- Determine the concentration of hazardous substances or persistent organic pollutants present
- Test directly for certain hazardous properties for which that is appropriate e.g. HP3 Flammable

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5. Waste minimisation considerations at Design Stage in line with the Waste Hierarchy.

Background Information

Site History

The Peterborough and Cambridgeshire contracts cover a road network in both urban and rural settings. The road network also varies from dual carriageways to single track country routes in both Counties. The variety and scale of the contracts and activities delivered have been considered in Appendix A. MI and PCC/ CCC have taken a joint decision on appropriate levels of testing based on risk, practicality and achievable outcomes.

Information relating to the historical use of the site will be gathered via desktop studies and further investigations carried out at design stage. It can be expected that the main potential sources or locations of contaminated material are:

- Use of hazardous construction material (old demolition rubble, asbestos pipes, coal tar binders, PFA)
- Asbestos (fly tip)
- Imported material (made ground)
- Spillages from accidents or during construction and maintenance activities
- Pesticide and herbicide applications (giving rise to Persistent Organic Pollutants (POPs))
- Contamination from existing materials

Relevant Guidance and Requirements

It is a requirement under the Waste Duty of Care code of practice to classify any waste arisings produced:

- Before it is collected, disposed of or recovered
- To identify the controls that apply to the movement of that waste
- In order to complete waste documentation, checks and records
- In order to identify suitably authorised waste carriers and waste management options
- To prevent harm to human health and the environment

Waste Classification and Assessment Procedure

Classification and Assessment Overview:

Steps to classify the waste:

1. Check if the waste needs to be classified – i.e. are the materials arisings excluded, or planning to be reused or removed?
2. Identify the waste code(s) (EWC) that may apply to the waste
3. Identify the assessment needed to select the correct code

Steps to assess the waste:

4. Determine the chemical composition of the waste
5. Identify if the substances in the waste are 'hazardous substances' or 'Persistent Organic Pollutants'
6. Assess the hazardous properties of waste
7. Assign the waste classification code (EWC) and description

Classification and Assessment Detail

Step 1: Check if the waste needs to be classified

The material does not need to be classified if it is either not a waste, or a waste that is excluded from classification (see Section 2, page 5 of WM3). **If the material is defined as a 'waste' and needs to be classified, proceed to step 2**

Step 2: Identify the waste code or codes that may apply to the waste

This step involves identifying how the waste is classified in the EWC. **Then proceed to Step 3.**

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Step 3: Identify the assessment needed to select the correct waste code(s)

This step involves working out if an assessment is needed. The assessment needed is dependent on the type of code(s) identified. Codes are divided into 4 types of entry:

- Wastes that may be either hazardous or non-hazardous are known as 'Mirror Hazardous' or 'Mirror Non-Hazardous' entries. Further assessment will be required using steps 4 to 7. 'Mirror Hazardous' or 'Mirror Non-Hazardous' entries will be identified and sampled in line with Appendix A of this plan
- Wastes that are always hazardous are known as 'Absolute Hazardous' and do not require any further assessment.
- Wastes that are known as 'Absolute Non-Hazardous' entries do not require any further assessment.

Step 4: Determine the chemical composition of the waste

The composition of a waste will be assessed and defined:

- From the relevant SDS
- By sampling and analysing the waste to determine its composition. This shall be completed in line with the procedures identified within this plan.

Step 5: Identify if the substances in the waste are 'hazardous substances' or 'Persistent Organic Pollutants'

Once the chemical composition of the material has been defined, relevant 'Hazardous Substances' and/or 'Persistent Organic Pollutants (POPs)' must be considered.

Hazardous Substances

This stage is informed by the Classification, Labelling and Packaging of Substances and Mixtures Regulation (CLP) which assigns and defines Hazard Properties and Statement Codes. A software package known as HazWasteOnline will be used to analyse chemical analysis reports and flag any determinand concentrations that exceed hazardous thresholds. In the event of a hazard code being identified the Environment Advisor/Manager will liaise with the laboratory and define further testing requirements.

Persistent Organic Pollutants (POPs)

Persistent organic pollutants (POPs) are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Many POPs were used in pesticides, herbicides, solvents, pharmaceuticals and industrial chemicals between 1930 and 2001. The assessment for POPs shall be triggered based on a desktop study or site walkover of the construction area being associated with:

- Land or areas associated with industrial manufacturing
- Land or areas associated with plastic recycling
- Land or areas associated with agricultural use
- Land or areas associated with energy generation and waste management facilities.

POPs are defined in the below (extract taken from the WM3 technical guidance)

The List of Waste states that:

'Wastes containing polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF), DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane), chlordane, hexachlorocyclohexanes (including lindane), dieldrin, endrin, heptachlor, hexachlorobenzene, chlordecone, aldrin, pentachlorobenzene, mirex, toxaphene hexabromobiphenyl and/or PCB exceeding the concentration limits indicated in Annex IV to Regulation (EC) No 850/2004 [see Table 16.1] shall be classified as hazardous.'

Step 6: Assess the hazardous properties of the waste

All hazardous properties must be considered here. These are numbered HP1 to HP15. There are three methods to work out if a waste displays hazardous properties:

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1. Calculation – referring to a concentration limit for a hazard statement code(s) – i.e. how much of a hazardous property is required to be present within a specified quantity of waste to deem it hazardous.
2. Testing – to prove whether a particular hazardous property is present or not
3. The safety data sheet (SDS) information

Step 7: Assign the classification code and describe the hazardous properties

Here the information identified in all steps is combined to ensure:

- The correct EWC waste code is used
- A correct assessment of hazardous properties has been undertaken prior to works
- Appropriate documentation and waste management controls are applied

Health and Safety Precautions, and Access Restrictions:

All operatives working on the contract networks need to have a valid site induction and to be working to an approved risk assessments. All non-inducted persons are to receive visitor Induction and to be escorted at all times.

Known or potential risks include asbestos, coal tar, leptospirosis, sharps, fly tipped material and rubbish that may be contaminated with urine or faeces. Additional risks include steep banks, bridges, culverts and vegetation which may result in some areas being difficult to access or inaccessible.

Constituents to be tested (analysis)

Visual & Olfactory Testing

- All staff will be trained in what to look for in terms of visual testing via a Toolbox Talk, i.e. staining or discolouration.
- All staff will be advised on olfactory testing via a Toolbox Talk, i.e. identification of odour

Basic Characterisation Requirements – Soils and Excavated waste

Excavated wastes will undergo analysis in line with the basic characterisation requirements outlined in WM3. MI define a 'Standard Excavated Waste Suite' in Guidance [EHS 040 G01](#) as detailed in Table 1 below. Further additional testing may be required as per Table 2 below (dependant on the results of a desk study and site investigation at design or project planning stage:

Table 1

Standard Excavated Waste Suite (based on WM3 guidance)	Moisture content correction type, (wet or dry) & value specified. Request results are corrected to dry weight terms
	pH
	Asbestos screen (followed by immediate Identification and quantification if found)
	Asbestos ID and Gravimetry
	Heavy Metals - Arsenic (As), Barium (Ba), Cadmium (Cd), Copper (Cu), Molybdenum (Mo), Lead (Pb), Mercury (Hg), Nickel (Ni), Selenium (Se), Zinc (Zn)
	Chromium III & VI
	TPH Criteria Working Group & Chromatographs
	Confirmation whether Total Petroleum Hydrocarbons (TPH) has arisen from diesel or petrol
	Phenol Index
	Speciated 16 Poly Aromatic Hydrocarbons (PAH)
	Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)
	Floril clean up

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Table 2

POPs	Full suite of POPs testing
WAC	Hazardous Waste Acceptance Criteria (WAC) leachate analysis

If asbestos found please follow Cambridgeshire Highways asbestos strategy.

Basic Characterisation Requirements – Black Top/Bituminous Mixtures

Black top and bituminous mixtures will undergo analysis in line with the basic characterisation requirements outlined in the WM3 Technical Guidance and Appendix 11 of MI's [EHS 040 G01](#).

The first stage of analysis will involve screening core samples using a PAK marker spray in line with ADEPT guidance. Where PAK marker indicates a positive result the core will be sent to the laboratory for further analysis in line with the 'PAH Suite' outlined in Table 3 below:

Table 3

PAH Suite (Based on Adept Guidance)	Naphthalene
	Acenaphthylene
	Acenaphthene
	Fluorene
	Phenanthrene
	Anthracene
	Fluoranthene
	Pyrene
	Benzo[a]anthracene
	Chrysene
	Benzo[b]fluoranthene
	Benzo[k]fluoranthene
	Benzo[a]pyrene
	Indeno(1,2,3-c,d)Pyrene
	Dibenz(a,h)Anthracene
	Benzo[g,h,i]perylene
	Total Of 16 PAH's

Technical Goals (from the Objective)
Define populations and subpopulations

The population is defined as the total amount of waste that you want to obtain information on by sampling, i.e. a single container of waste or a batch of waste from a process or a continuous stream of waste produced by a process over a specific time period.

The populations or waste streams encountered on this highways term maintenance contract will be treated as a 'continuous production of a heterogeneous stream of waste'. This has been chosen due to the repetitive nature of highways term maintenance contract works.

The nature, composition and consistency of arisings may differ from another, resulting in the potential for different compositions, properties and classifications. An assessment of waste streams and arisings has been completed, taking account of risk to human health and the environment and practicality from an operational perspective. This is documented in in Appendices A and B.

Where sub populations are defined at design stage, each sub population will be sampled in situ prior to excavation. Examples of sub populations may include:

• Bituminous mixtures • Dredging spoil	• Excavated waste	• Soil (top soil / subsoil) • Soil and stones
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Variability and causes:

It is important to understand the main components of variability within the population being sampled to ensure the correct test programme is applied. For the purposes of sampling on this contract, spatial sampling shall be used over temporal. Spatial has been chosen (as outlined below) over temporal which relates to cyclic, driven and random variability.

Spatial sampling is best applied to highways term maintenance because the waste streams are regularly produced in defined sub populations. Spatial variability accounts for where one part of the waste may differ from another. Most arisings from highway maintenance are heterogeneous when considered individually or in bulk.

Spatial variability can arise from:

- Materials arising from physically different locations
- Contamination occurring in certain areas of the site
- Variability between samples taken from different sub-populations or strata
- Separation in the waste e.g. solids separating out from liquids

Scale of sampling

The 'scale' is defined as the amount of waste that the sample represents. The scale can be defined by:

- The particle size of the waste
- The size of the population or sub population
- In terms of time (a day, a month, a week or a year)

Representative sample numbers will be identified based on Table 4.1 of the Environment Agency's Disposal of Waste to Landfill guidance (2020) (see Table below).

(Table 4.1 of Environment Agency's Disposal of Waste to Landfill guidance (2020))

For this contract sampling will be primarily based on the heterogeneous method of sampling.

	Population (tonnes)	Homogenous (Number of Samples)	Heterogeneous and new waste (number of samples)
Basic (comprehensive) characterisation	<100t	2	5
	<500t	3	8
	<1000t	5	14
	<10000t	11	22
	Per additional 10000t	+5 (pro rata)	+10 (pro rata)

Statistical approach to be used

A statistical approach will not be used. The results of each sample will be assessed separately using the [HazWasteOnline](#) software or similar approved system.

Sampling approach and pattern (including justification):

Sampling Approach: There are two approaches to sampling:

1. Probabilistic – has an equal chance of sampling any individual part of a waste and implies that the entire population is accessible for sampling.
2. Judgemental. – is where part of the waste is excluded from sampling

Note: In most cases, for highways maintenance probabilistic sampling is applicable for excavated waste.

Sampling Pattern:

There are 3 approaches for probabilistic sampling patterns:

1. Simple random sampling – where the samples are taken at random from the population
2. Stratified random sampling – Where the population is divided into sub-populations and a specified number of samples are taken randomly from each
3. Systematic random sampling – where the samples are evenly spread across the population

Note: In most cases stratified random sampling is applicable for excavated waste.

Sample details: This section will be defined on a case by case basis and instructions included in the Sampling Instruction Form.

Individual or composite:	Samples taken for activities on this contract may be either individual or composite. Definitions: ▪ Individual – material taken from a single location that is analysed as a single unit. ○ This method is to be used where material is being sampled prior to excavation ▪ Composite – a collection of 5 samples, each taken from a single location around the sampling point, that are combined to form a single unit for analysis. ○ This method is to be used when sampling a stockpile or container of waste – i.e. a skip
Number of samples:	This will be defined on a case by case basis and recorded using the sampling instruction form.
Size of samples:	It is important to identify how much material must be collected for each sample e.g. 2.5kg per sample. This should be confirmed by the laboratory undertaking the analysis. Lab requirements are identified on the Sampling Instruction Form
Identify sampling place and points:	Sampling places and points are to be defined on a case by case basis. Site Agents and Operational Staff will be given appropriate training on how to specify sampling requirements and how to undertake sampling. Sampling locations and instructions will be detailed on a Sampling Instruction Form. A Chain of Custody form is also required to be produced.

Appendix A - Waste Disposal Advance Testing Matrix

<i>This Waste Disposal Advance Testing Matrix has been written in line with the following documentation and guidance:</i>					
Adept Guidance – Managing Reclaimed Asphalt – Road Pavements		- CDM Regulations - Highway Term Maintenance Contract Information		WM3 Technical Guidance	
Work Type	Waste Streams	Stage Test Required	Test Type Required	Responsibility	Location
Resurfacing	Bituminous Mixtures	Design Stage	- Check if sufficient asset data is available from client (see appendix B for more information) - If asset data unavailable, core or trial pit to be taken to relevant depth and PAK Marker Screened - If PAK returns a positive result then the core/trial pit sample must be sent to the lab for PAH Suite	MI - Design	All sites (refer to appendix B for additional advice)
Planned Patching	Bituminous Mixtures	Operational Phase	- Check if sufficient asset data is available from client (see appendix B for more information) - If asset data is unavailable PAK Marker Screening required - If PAK returns a positive result then a sample must be sent to the lab for PAH Suite	MI - Design	All sites (refer to appendix B for additional advice)

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Jet Patching/Dragon Patcher	Not Applicable – No excavated waste generated by these operations.				
	Street Cleaning Residues (Pre Surface Dressing)	Not Applicable - Waste must go direct to a waste disposal facility with an appropriate permit, licence or exemption. This waste cannot be returned to or stored at a Skanska depot without the correct permissions being in place.			All Sites
	Cleaning Operations	Please refer to 'Ploughing and siding out guidance' works stream guidance below			All Sites
Pothole Works	Bituminous Mixtures	Operational Phase	1. Olfactory Testing (visual/odour) 2. If visual/odour contamination detected then sites to be PAK Marker Screened 3. If PAK returns a positive result then a sample must be sent to the lab for PAH Suite	MI - Operations	All sites (refer to appendix B for additional advice)
Surface Dressing	Street Cleaning Residues (Pre Surface Dressing)	Not Applicable - Waste must go direct to a waste disposal facility with an appropriate permit, licence or exemption. This waste cannot be returned to or stored at a MI depot without the correct permissions being in place.			All Sites
	Bituminous Mixtures	For pre patching for surface dressing please refer to guidance in the patching work stream above.			All Sites
	Cleaning Operations	Please refer to 'Ploughing and siding out guidance' works stream guidance below			All Sites
Drainage Works	Bituminous Mixtures	Design Stage	1. Check if sufficient asset data is available from client (see appendix B for more information)	MI - Design	All sites (refer to appendix B)

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			2. If asset data unavailable, core or trial pit to be taken to relevant depth and PAK Marker Screened 3. If PAK returns a positive result then the core/trial pit sample must be sent to the lab for PAH Suite		for additional advice)
Road Sub-base	Design Stage		If less than 5T to be removed, follow minor works Excavated Waste Suite	MI - Design	
Soil /verge/clay	Design Stage		Excavated Waste Suite	MI - Design	
Concrete & Slabs	No testing when in solid form				All Sites
Timber/ Wooden Shuttering	No testing required				All Sites
Bricks	No testing required				All Sites
Geotextile & Fabric	No testing required				All Sites
Mixed Metals & Iron Work	No testing required				All Sites
Dredging Spoil and Silt	Please refer to Drainage (Ditching and clearing Grips) advice and guidance below				All Sites
Soil & Stones from Ploughing and Siding Out	Please refer to Ploughing and Siding out advice and guidance below				All Sites
Green Waste and Tree Roots	Not Applicable – waste classified as Green Waste				All Sites
Pipes	- Clay –Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Lead - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste				All Sites

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		- Plastic/Plastic Ducts - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Steel/Iron/Metal Ducts – - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Concrete - Testing not applicable – Waste is classified as Inert Waste - Pitch Fibre /Asbestos –Waste pipes potentially Hazardous Waste			
Filter Drain Works	Aggregates	No testing required			All Sites
	Silt	Design Stage	Excavated Waste Suite & WAC testing	MI - Design	All Sites
Footway Works	Bituminous Mixtures	Design Stage	- Check if sufficient asset data is available from client (see appendix B for more information) - If asset data unavailable, core or trial pit to be taken to relevant depth and PAK Marker Screened - If PAK returns a positive result then the core/trial pit sample must be sent to the lab for PAH Suite	MI - Design	All Sites (refer to Appendix B for additional advice)
	Road Sub-base	Design Stage	Excavated Waste Suite	MI - Design	
	Soil /Verge/Clays	Design Stage	Excavated Waste Suite	MI - Design	
	Concrete, Concrete Slabs and Kerbs	No testing when in solid form			All Sites
	Mixed Metals & Iron Work	No testing required			All Sites

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	Timber/ Wooden Shuttering	No testing required			All Sites
	Green Waste and Tree Roots	No testing required			All Sites
	Pipes	- Clay –Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Lead - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Plastic/Plastic Ducts - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Steel/Iron/Metal Ducts – - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Concrete - Testing not applicable – Waste is classified as Inert Waste - Pitch Fibre /Asbestos –Waste pipes potentially Hazardous Waste			All Sites
Drainage (Ditching and clearing Grips)	Dredging Spoil	Operational Phase	- Olfactory Testing (Visual/odour) - If positive for fuel/oil, Excavated Waste Suite Testing	MI - Operations	All sites (refer to appendix B for additional advice)
Ploughing and Siding Out	Soil & Stones	Operational Phase	- Olfactory Testing (Visual/odour) - If positive for fuel/oil, Excavated Waste Suite Testing	MI - Operations	All sites (refer to appendix B for additional advice)
	Green Waste	Not Applicable – waste classified as Green Waste – EWC 20 02 01			All sites
Gully Emptying and Jetting	Street Cleaning Residues	Not Applicable - Waste must go direct to a waste disposal facility with an appropriate permit, licence or exemption. This waste cannot be returned to or stored at a Skanska depot without the correct permissions being in place.			N/A
Road Sweeping	Street Cleaning Residues	Not Applicable – this work stream is not undertaken as part of the PHS/CHS Contract			N/A

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Cattle Grid Cleaning	Street Cleaning Residues	Not Applicable – this work stream is not undertaken as part of the PHS/CHS Contract			N/A
Emergency Works	Road Sweeping/ Street Cleaning Residues	Not Applicable - Waste must go direct to a waste disposal facility with an appropriate permit, licence or exemption. This waste cannot be returned to or stored at a Skanska depot without the correct permissions being in place. It is advisable to let the tip know that road sweepings have arisen from emergency works as this may affect their waste acceptance procedures			N/A
	Soil and Stones	Quarantined stockpile sampling – refer to Contract Waste Management Plan for details on approved quarantine areas	Excavated Waste Suite	MI - Operations	All sites
	Bituminous Materials	Quarantined stockpile sampling – refer to Contract Waste Management Plan for details on approved quarantine areas	1. All sites to be PAK Marker Screened. 2. If PAK returns a positive result then the core or a sample must be sent to the lab for PAH Suite	MI - Operations	All sites
	Used Spill Kits/Coconut Dust	Not Applicable – Waste is classified as Absolute Hazardous Waste and must go direct to a waste disposal facility with an appropriate permit, licence or exemption. This waste can be returned to or stored at a MI depot with the correct permissions and storage facilities in place.			All sites
Fencing Works	Wood and Timber Waste	Design Stage	1. Check if sufficient asset data is available from client (see appendix B for more information) 2. If asset data unavailable, sample to be sent to lab for taken for creosote suite	MI - Design	All sites
	Paint	Design Stage	1. Check if sufficient asset data is available	MI - Design	All sites

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			2. Where no data is available, sampling for lead is required		
Bridges, Structures and Retaining Walls	Bituminous Mixtures	Design Stage	1. Check if sufficient asset data is available from client (see appendix B for more information) 2. If asset data unavailable, core or trial pit to be taken to relevant depth and PAK Marker Screened 3. If PAK returns a positive result then the core/trial pit sample must be sent to the lab for PAH Suite	MI - Design	All Sites (refer to Appendix B for additional advice)
	Road Sub-base	Design Stage	Excavated Waste Suite	MI - Design	All Sites (refer to Appendix B for additional advice)
	Soil /Verge/Clays/ Backfill	Design Stage	Excavated Waste Suite	MI - Design	All Sites (refer to Appendix B for additional advice)
	Waterproof Membrane	Design Stage	Asbestos, Asbestos ID and PAH	MI - Design	All Sites (refer to Appendix b

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					for additional notes)
	Paintwork	Design Stage	1. Check if sufficient asset data is available 2. Where no data is available, sampling for lead is required	MI - Design	All Sites (refer to Appendix b for additional notes)
	Shimming – i.e. asbestos sheets/concrete sheets	Design Stage	Excavated Waste Suite	MI - Design	All Sites (refer to Appendix b for additional notes)
	Mortar	Design Stage	1. Check asset data and refer to Safety Data Sheet and COSHH sheet for product. No testing required 2. If sufficient asset data not available testing required – please contact environment team	MI - Design	All Sites (refer to Appendix b for additional notes)
	Concrete, Concrete Slabs and Kerbs	No testing when in solid form			All Sites (refer to Appendix B for additional advice)
	Geotextile & Fabric	No testing required			All Sites (refer to Appendix B for additional advice)

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	Masonry (Large stones)	No testing required	All Sites (refer to Appendix B for additional advice)
	Mixed Metals & Iron Work	No testing required	All Sites (refer to Appendix B for additional advice)
	Timber/ Wooden Shuttering	No testing required	All Sites (refer to Appendix B for additional advice)
	Green Waste and Tree Roots	No testing required	All Sites (refer to Appendix B for additional advice)

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	Pipes	- Clay –Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Lead - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Plastic/Plastic Ducts - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Steel/Iron/Metal Ducts – - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Concrete - Testing not applicable – Waste is classified as Inert Waste - Pitch Fibre/Asbestos – Waste pipes potentially Hazardous Waste			All Sites (refer to Appendix B for additional advice)
Minor Works and Safety Defects (other than Pothole Works)	Bituminous Mixtures	Operational Phase	- Olfactory Testing (visual/odour) - If visual/odour contamination detected then sites to be PAK Marker Screened - If PAK returns a positive result then a sample must be sent to the lab for PAH Suite	MI – Operations	All sites (refer to appendix B for additional advice)
	Road Sub-base	Operational Phase	- Olfactory Testing (Visual/odour) - If positive for fuel/oil/asbestos, Excavated Waste Suite Testing to be completed	MI - Operations	

	Soil /verge/clay	Operational Phase	1. Olfactory Testing (Visual/odour) 2. If positive for fuel/oil/asbestos, Excavated Waste Suite Testing to be completed	MI - Operations	
	Concrete & Slabs	No testing when in solid form			All Sites
	Timber/ Wooden Shuttering	No testing required			All Sites
	Bricks	No testing required			All Sites
	Geotextile & Fabric	No testing required			All Sites
	Mixed Metals & Iron Work	No testing required			All Sites
	Dredging Spoil and Silt	Please refer to Drainage (Ditching and clearing Grips) advice and guidance below			All Sites
	Soil & Stones from Ploughing and Siding Out	Please refer to Ploughing and Siding out advice and guidance below			All Sites
	Green Waste and Tree Roots	Not Applicable – waste classified as Green Waste			All Sites
	Pipes	- Clay –Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Lead - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Plastic/Plastic Ducts - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Steel/Iron/Metal Ducts – - Testing not applicable – Waste is classified as Absolute Non Hazardous Waste - Concrete - Testing not applicable – Waste is classified as Inert Waste - Pitch Fibre /Asbestos –Waste pipes potentially Hazardous Waste			All Sites

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Appendix B – Sampling Guidance, Standard Approach and Additional Notes

The Waste Disposal Advance Testing Matrix in Appendix A must be adhered to in line with the requirements of Appendix B Sampling Guidance, Standard Approach and Additional Notes

General note on approach to sampling bituminous mixtures for coal tar:

The MI Environment team have approached the Environment Agency and ADEPT Organisation to gain clarity on the correct approach for sampling and screening for tar bound materials. The agreed process forms the basis of our sampling approach for Bituminous Mixtures across a variety of Infrastructure Services work streams. Please refer to Appendix C for a copy of the process.

Guidance for Individual Work Streams

Resurfacing											
Explanation of Sufficient Asset Data											
If sufficient asset data can be provided by the client prior to design to prove that the road was constructed post 1990's and to the depths that resurfacing is being undertaken then no testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include as built drawings and previous coring results.											
Sampling of Bituminous Mixtures											
- For waste characterisation it is necessary to test an appropriate number of cores. This number is dependent on the variability of the road construction i.e. the level of tar bound layers within the core, the thickness of tar bound layers and the type of tar bound material (surface dressing, surface course, base material). This is to be planned and determined on a site by site basis. As a general rule cores should be taken as per the table below:											
<table border="1"> <thead> <tr> <th>Length</th><th>Number of Cores</th></tr> </thead> <tbody> <tr> <td>Up to 100m</td><td>Minimum 1</td></tr> <tr> <td>100 – 200m</td><td>Minimum 2</td></tr> <tr> <td>200 – 400m</td><td>Minimum 3</td></tr> <tr> <td>400m +</td><td>200m centres</td></tr> </tbody> </table>		Length	Number of Cores	Up to 100m	Minimum 1	100 – 200m	Minimum 2	200 – 400m	Minimum 3	400m +	200m centres
Length	Number of Cores										
Up to 100m	Minimum 1										
100 – 200m	Minimum 2										
200 – 400m	Minimum 3										
400m +	200m centres										
If a positive result is returned with the PAK marker then additional cores are to be taken to identify tar bound areas at 25m intervals between relevant chainage links as per ADEPT guidance - Where design requires full depth reconstruction further sampling to be completed as advised by the Environmental Team											
Waste Classification											
For waste classification purposes the EWC code shall be listed as follows:											
- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials - EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials											
Planned Patching											
Explanation of Sufficient Asset Data											
If sufficient asset data can be provided by the client prior to design to prove that the road was constructed post 1990's and to the depths that planned patching is being undertaken then no											

testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include as built drawings and previous coring results.

Sampling of Bituminous Mixtures

- The number of patches tested will be dependent on the variability of the road construction i.e. the depth and thickness of tar bound. This is to be planned and determined on a site by site basis.
- If a positive result is returned with the PAK marker then additional cores are to be taken to identify tar bound areas at 25m intervals between relevant chainage links
- Where design requires full depth reconstruction further sampling to be completed as advised by the Environmental Team

PAK Marker Testing

- PAK Marker must be sprayed on freshly broken ground to ensure marker is activated correctly
- For patching it has been agreed that indicative PAK screening will be completed on a chosen patch in areas with similar characteristics i.e. depth and road age. Where indication returns a negative result, all patches within that same area will be assumed as non-hazardous.

If PAK Marker Returns Positive Result

1. Sample break out area to be reinstated to make area safe
2. Site Team contact Site Agent
3. Site Agent to call Client
4. Joint decision to be made on further testing

Waste Classification

For waste classification purposes the EWC code shall be listed as follows:

- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials
- EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials

Jet Patching or Dragon Patcher

Not Applicable – No excavated waste generated by these operations.

Pothole Works – Separated from Safety Defects to assess risks relating to pothole activity specifically.

This activity is regarded as low risk for contamination due to the nature of the activity and typical amount of arisings produced. These works are often reactive as they pose a safety issue and mobile meaning it is not technically or economically feasible to sample and characterise every location. Based on this, the approach to sampling waste arisings from pothole works is listed below.

Sampling of Bituminous Mixtures

1. Potential waste contamination will be identified via visual/olfactory testing
2. If negative olfactory, waste will be assumed non-hazardous and disposed of at normal location
3. If it's positive on olfactory, waste will be PAK marker on waste to complete initial screening
4. If negative PAK marker result is received after PAK screening dispose of at normal location
5. If it's positive on PAK marker, quarantine it and keep segregated from other waste on vehicle
6. Operatives to inform Site Agent who will advise on where to take waste (Site Agent to consult waste plan for details on agreed quarantine or stockpile areas)
7. Site Agent to log waste arriving into quarantine area and either
 - a. Arrange for sampling arisings as soon as they return back in the depot and label remaining sample – i.e. 'Sample 1'

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- b. Empty into quarantine stockpile area to be tested when stockpile area is full
8. Wait for results, classify and dispose of arisings

Waste Classification

For waste classification purposes the EWC code shall be listed as follows:

- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials
- EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials

Surface Dressing

- Sampling is only required for surface dressing works where a waste is produced.
- For patching works prior to surface dressing, please consult the advice and guidance in the patching work stream in Appendix A.

Drainage Works

Minor safety defects or investigatory drainage works are regarded as low risk for contamination due to the nature of the activity and typical amount of arisings produced. These works are often reactive as they can pose a safety or flooding issue meaning it is not technically or economically feasible to sample and characterise every location. The approach to sampling these works is described in the 'Minor Works and Safety Defects Section'. Minor works can be described as less than 5 tonnes of waste being generated from a site.

All works not classified as minor works will be classified as listed below.

Explanation of Sufficient Asset Data – Bituminous Materials

If sufficient asset data can be provided by the client prior to design to prove that the road was constructed post 1990's and to the depths that resurfacing is being undertaken then no testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include as built drawings and previous coring results.

Sampling of Bituminous Mixtures

- For waste characterisation it is necessary to test an appropriate number of samples. This number is dependent on the variability of the road construction i.e. the level of tar bound layers within the core, the thickness of tar bound layers and the type of tar bound material (surface dressing, surface course, base material). **This is to be planned and determined on a site by site basis.**
- **If a positive result is returned with the PAK marker then additional cores are to be taken to identify tar bound areas at 25m intervals between relevant chainage links**
- Where design requires full depth reconstruction further sampling to be completed as advised by the Environmental Team

Sampling of Soils, Stones & Excavated Materials

- For waste characterisation it is necessary to test an appropriate number samples. This number is dependent on the variability of the road construction i.e. top soil and sub soil samples should be suitably segregated. As a standard rule it is advisable for one sample to be taken at a depth of 100mm and one further sample taken at the full depth of construction as specified by the design requirements
- POPs samples are to be taken from the surface layers ~100mm in line with POPs guidance below.
- **Sampling is to be planned and determined on a site by site basis.**

Sampling for Pipes

Where possible the identification and classification of pipes shall be issued with pre construction information. Where this is not possible, operational staff will be equipped with on-site guidance on how to identify pipes and the following unexpected finds procedure will be implemented:

1. Use guidance to classify type of pipe
2. If unable to identify, operational team to contact Site Agent and agree (with the client) to:
 - a. Remove pipe to a quarantine area on the depot whilst sampling and analysis is conducted. Site Agent to arrange for testing immediately.
 - b. Stop works, leave in situ and send a sample to the lab. Proceed based on lab results.

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials
- EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials
- EWC 17 01 01 for Concrete and Concrete Slabs
- EWC 17 02 01 for Timber and Wooden Shuttering
- EWC 17 01 02 for Bricks
- EWC 17 02 03 for Geotextile
- EWC 17 04 07 for Mixed Metals and iron Work
- EWC 20 02 01 for Green Waste and Tree Roots
- EWC 17 01 03 for Clay Pipes
- EWC 17 04 03 for Lead Pipes
- EWC 17 04 03 for Plastic Pipes and Plastic Ducts
- EWC 17 04 05 for Iron and Steel Pipes
- EWC 17 01 01 for Concrete Pipes
- EWC 17 06 05* for Pitch Fibre Pipes

Filter Drain Works

All Filter Drain works should be classified as listed below. Note: sampling is required for every individual site.

Sampling of Aggregates

- Not applicable due to aggregates/stone being an inert material.

Sampling of Silt

- For waste characterisation it is necessary to test an appropriate number samples. This number is dependent on the variability of the location of the sample sites and the method being used for the filter drain works. I.e. whether the works are a recycling scheme or to excavate and replace.
- POPs samples where required are to be taken from the surface layers ~100mm in line with POPs guidance below.
- Sampling is to be planned and determined on a site by site basis.
- It is advisable to complete WAC testing for each site to aid operational efficiency should the WM3 testing return a hazardous result.

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EWC 17 05 04 for Soil and Stones
- EWC 01 04 08 for Waste gravel and crushed rocks
- EWC 17 05 05* for Dredging spoil containing hazardous substances
- EWC 17 05 06 for Dredging spoil not containing hazardous substances

Fencing Works

All Fencing Works should be classified as listed below. Note: sampling is required for every individual site.

Explanation of Sufficient Asset Data – Wood Waste/Timber

If sufficient asset data can be provided by the client prior to design to prove how any wood waste has been previously then no testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include detail and specifications on what the wood was previously treated with.

Sampling of Wood Waste/Timber

- Wood samples to be taken and tested for creosote.
- This is to be planned and determined on a site by site basis.

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EWC 17 02 04* for Wood containing hazardous substances
- EWC 17 02 01 for Wood

Footway Works

Minor or investigatory footway works are regarded as low risk for contamination due to the nature of the activity and typical amount of arisings produced. These works are often reactive as they can pose a safety issue meaning it is not technically or economically feasible to sample and characterise every location. Minor works can be described as less than 5 tonnes of waste being generated from a site. The approach to sampling these works is described in the 'Minor Works and Safety Defects Section'.

All works not classified as minor works will be classified as listed below.

Explanation of Sufficient Asset Data – Bituminous Materials

If sufficient asset data can be provided by the client prior to design to prove that the footway was constructed post 1990's and to the depths that resurfacing is being undertaken then no testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include as built drawings and previous coring results.

Sampling of Bituminous Mixtures

- For waste characterisation it is necessary to test an appropriate number of samples. This number is dependent on the variability of the footway construction i.e. the level of tar bound layers within the core, the thickness of tar bound layers and the type of tar bound material (surface dressing, surface course, base material). **This is to be planned and determined on a site by site basis.**
- **If a positive result is returned with the PAK marker then additional cores are to be taken to identify tar bound areas at 25m intervals between relevant chainage links**
- Where design requires full depth reconstruction further sampling to be completed as advised by the Environment Team

Sampling of Soils, Stones & Excavated Materials

- For waste characterisation it is necessary to test an appropriate number samples. This number is dependent on the variability of the footway construction i.e. sub base samples should be suitably segregated if definite layers are encountered.
- **Sampling is to be planned and determined on a site by site basis.**

Sampling for Pipes

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Where possible the identification and classification of pipes shall be issued with pre construction information. Where this is not possible, operational staff will be equipped with on-site guidance on how to identify pipes and the following unexpected finds procedure will be implemented:

3. Use guidance to classify type of pipe
4. If unable to identify, operational team to contact Site Agent and agree (with the client) to:
 - a. Remove pipe to a quarantine area on the depot whilst sampling and analysis is conducted. Site Agent to arrange for testing immediately.
 - b. Stop works, leave in situ and send a sample to the lab. Proceed based on lab results.

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials
- EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials
- EWC 17 01 01 for Concrete and Concrete Slabs
- EWC 17 02 01 for Timber and Wooden Shuttering
- EWC 17 01 02 for Bricks
- EWC 17 02 03 for Geotextile
- EWC 17 04 07 for Mixed Metals and iron Work
- EWC 20 02 01 for Green Waste and Tree Roots
- EWC 17 01 03 for Clay Pipes
- EWC 17 04 03 for Lead Pipes
- EWC 17 04 03 for Plastic Pipes and Plastic Ducts
- EWC 17 04 05 for Iron and Steel Pipes
- EWC 17 01 01 for Concrete Pipes
- EWC 17 06 05* for Pitch Fibre Pipes

Ditching and Grips Clearance

This activity is regarded as low risk for contamination due to the nature of the activity and typical amount arisings produced. These works are mobile, meaning it is not technically or economically feasible to sample and characterise every location. Based on this, the approach to sampling waste arisings from Ditching and Grips Clearance works is listed below:

1. Potential waste contamination will be identified via visual/olfactory testing
2. Where potential contamination is identified, work will stop and the Site Agent to be contacted
3. Site Agent to make decision on whether to:
 - a. Sample 'hotspot' and leave in situ and carry on remaining works
 - b. Stop works pending investigation

Notes on use of Waste Exemptions

- No exemption is required for waste being deposited adjacent to the site of origin
- If waste is being deposited outside of the works area indicated on the task order, a U1 exemption is to be registered. There is a 5000 tonne limit for wastes classified as EWC 17 05 06 dredging spoil not containing hazardous substances under this exemption and waste stream within a 3 year period

Waste Classification

For waste classification purposes the EWC code shall be listed as follows:

- EWC 17 05 06 dredging spoil (non-hazardous)
- EWC 17 05 05* dredging spoil containing hazardous substances

Other Notes

The work site and any donation sites must be subject to on-site visual checks for ecology, invasive species and special verges.

Ploughing and Siding Out

This activity is regarded as low risk for contamination due to the nature of the activity and typical amount arisings produced. These works are mobile, meaning it is not technically or economically

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feasible to sample and characterise every location. Based on this, the approach to sampling waste arisings from Ploughing and Siding Out works is listed below:

1. Potential waste contamination will be identified via visual/olfactory testing
2. Where potential contamination is identified, work will stop and the Site Agent to be contacted
3. Site Agent to make decision on whether to:
 - a. Sample 'hotspot' and leave in situ and carry on remaining works
 - b. Stop works pending investigation

Notes on use of Waste Exemptions

- No exemption is required for waste being deposited adjacent to the site of origin
- If waste is being deposited outside of the works area indicated on the task order, a U1 exemption is to be registered. Note there is a 1000 tonne limit for this exemption and waste stream within a 3 year period

Waste Classification

For waste classification purposes the EWC code shall be listed as follows:

- EWC 17 05 03* for soil and stones containing hazardous substances
- EWC 17 05 04 for soil and stones (non-hazardous)

Other Notes

The work site and any donation sites must be subject to on-site visual checks for ecology, invasive species and special verges.

Gully Emptying, Jetting, Road Sweeping and Cattle Grid Cleanings

Not Applicable – Waste is classified as **Absolute Non Hazardous Waste** if it is taken directly to a waste disposal facility with an appropriate permit, licence or exemption. This waste can be returned to or stored at a MI depot with the correct permissions and storage facilities in place.

Emergency Works

Due to the nature of emergency works all excavated materials will be assessed on a case by case basis and where required quarantined until appropriate testing has been carried out in line with advice from the Environment Team.

Bridges, Structures and Retaining Walls

Explanation of Sufficient Asset Data – Bituminous Materials

If sufficient asset data can be provided by the client prior to design to prove that the road or footway was constructed post 1990's and to the depths that resurfacing is being undertaken then no testing will be required. In the event that this evidence is not sufficient, testing will be required. Examples of asset data could include as built drawings and previous coring results.

Sampling of Bituminous Mixtures

- For waste characterisation it is necessary to test an appropriate number of samples. This number is dependent on the variability of the footway construction i.e. the level of tar bound layers within the core, the thickness of tar bound layers and the type of tar bound material (surface dressing, surface course, base material). **This is to be planned and determined on a site by site basis.**
- **If a positive result is returned with the PAK marker then additional cores are to be taken to identify tar bound areas at 25m intervals between relevant chainage links**
- Where design requires full depth reconstruction further sampling to be completed as advised by the Environmental Team

Sampling of Soils, Stones & Excavated Materials

- For waste characterisation it is necessary to test an appropriate number samples. This number is dependent on the variability of the footway construction i.e. sub base samples should be suitably segregated if definite layers are encountered.
- Sampling is to be planned and determined on a site by site basis.**

Sampling for Pipes

Where possible the identification and classification of pipes shall be issued with pre construction information. Where this is not possible, operational staff will be equipped with on-site guidance on how to identify pipes and the following unexpected finds procedure will be implemented:

- Use guidance to classify type of pipe
- If unable to identify, operational team to contact Site Agent and agree (with the client) to:
 - Remove pipe to a quarantine area on the depot whilst sampling and analysis is conducted. Site Agent to arrange for testing immediately.
 - Stop works, leave in situ and send a sample to the lab. Proceed based on lab results.

Sampling of Waterproof Membrane

Sampling and identification of waterproof membranes to be determined at design stage. Sampling only required for works affecting waterproof membrane. No sampling required if waterproofing is to remain in situ.

Sampling of Paintwork

Sampling and identification of paintwork to be determined at design stage.

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EW 17 03 01* for Bituminous Mixtures containing hazardous materials
- EW 17 03 02 for Bituminous Mixtures not containing hazardous materials
- EW 17 05 05* for Silt and Dredging Spoil containing hazardous substances
- EW 17 05 06 for Silt and Dredging Spoil not containing hazardous substances
- EW 17 01 01 for Concrete and Concrete Slabs
- EW 17 02 01 for Timber and Wooden Shuttering
- EW 17 01 02 for Bricks
- EW 17 09 04 for Mixed Brickwork and Mortar
- EW 17 02 03 for Geotextile
- EW 17 04 07 for Mixed Metals and iron Work
- EW 20 02 01 for Green Waste and Tree Roots
- EW 17 01 03 for Clay Pipes
- EW 17 04 03 for Lead Pipes
- EW 17 04 03 for Plastic Pipes and Plastic Ducts
- EW 17 04 05 for Iron and Steel Pipes
- EW 17 01 01 for Concrete Pipes
- EW 17 06 05* for Pitch Fibre Pipes
- Paintwork to be classified via Environment Team

Minor Works and Safety Defects (other than Pothole Works)

Minor or routine maintenance works are regarded as low risk for contamination due to the nature of the activity and typical amount of arisings produced. These works are often reactive as they can pose a safety issue meaning it is not technically or economically feasible to sample and characterise every location. Minor works can be described as less than 5 tonnes of waste being generated from a site. This approach will be quality tested using a quarterly depot stockpile sampling regime.

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For safety defects that are Emergency Works, please refer to the guidance in Appendix A&B for Emergency Works.

1. Potential waste contamination will be identified via visual/olfactory testing
2. Where potential contamination is identified, work will stop and the Site Agent to be contacted
3. Site Agent to make decision on whether to:
 - a. Sample 'hotspot' and leave in situ and carry on remaining works
 - b. Stop works pending investigation
 - c. Arisings in question to be returned to the depot to be quarantined and adequately segregated

Waste Classification

For waste classification purposes the EWC codes shall be listed as:

- EWC 17 03 01* for Bituminous Mixtures containing hazardous materials
- EWC 17 03 02 for Bituminous Mixtures not containing hazardous materials
- EWC 17 05 05* for Silt and Dredging Spoil containing hazardous substances
- EWC 17 05 06 for Silt and Dredging Spoil not containing hazardous substances
- EWC 17 01 01 for Concrete and Concrete Slabs
- EWC 17 02 01 for Timber and Wooden Shuttering
- EWC 17 01 02 for Bricks
- EWC 17 09 04 for Mixed Brickwork and Mortar
- EWC 17 02 03 for Geotextile
- EWC 17 04 07 for Mixed Metals and iron Work
- EWC 20 02 01 for Green Waste and Tree Roots
- EWC 17 01 03 for Clay Pipes
- EWC 17 04 03 for Lead Pipes
- EWC 17 04 03 for Plastic Pipes and Plastic Ducts
- EWC 17 04 05 for Iron and Steel Pipes
- EWC 17 01 01 for Concrete Pipes
- EWC 17 06 05* for Pitch Fibre Pipes
- Paintwork to be classified via Environment Team

Other Notes

The work site and any donation sites must be subject to on-site visual checks for ecology, invasive species and special verges.

Persistent Organic Pollutants (POPs)

Persistent organic pollutants (POPs) are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Many POPs were used in pesticides, herbicides, solvents, pharmaceuticals and industrial chemicals between 1930 and 2001. The assessment for POPs shall be triggered based on a desktop study or site walkover of the construction area being associated with:

- Land or areas associated with industrial manufacturing
- Land or areas associated with plastic recycling
- Land or areas associated with agricultural use
- Land or areas associated with energy generation and waste management facilities.

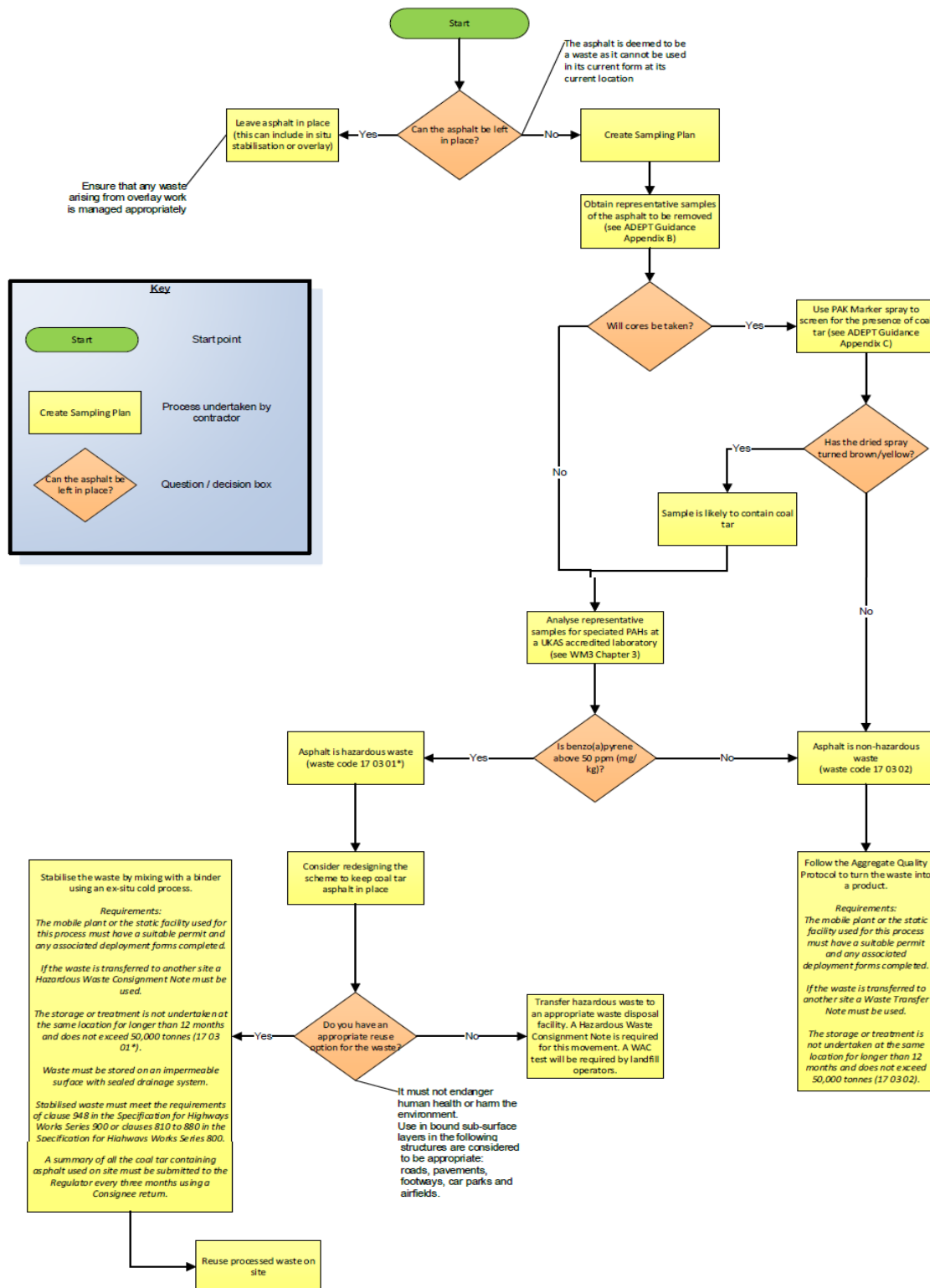
POPs are defined in the below (extract taken from the WM3 technical guidance)

The List of Waste states that:

'Wastes containing polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF), DDT (1,1,1-trichloro-2,2-bis (4-chlorophenyl)ethane), chlordane, hexachlorocyclohexanes (including lindane), dieldrin, endrin, heptachlor, hexachlorobenzene, chlordane, aldrin, pentachlorobenzene, mirex, toxaphene hexabromobiphenyl and/or PCB exceeding the concentration limits indicated in Annex IV to Regulation (EC) No 850/2004 [see Table 16.1] shall be classified as hazardous.'

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Appendix C – Procedure for determining sampling of Bituminous Mixtures



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