

Practice Makes Perfect

Paul Bardos, managing director of r3 environmental technology ltd; and
Nick Willenbrock from CL:AIRE, look at the success story that is the
Definition of Waste: Development Industry Code of Practice

A significant amount of soil and other excavated materials from development sites are still disposed of as waste at landfill sites every year, estimated at more than 30m tonnes. Very often these materials could be reused, often fairly readily, on other developments sites, such as for engineering fill or landscaping, for example.

However, the structure of waste regulations, resulting from the Waste Framework Directive, do not always make this reuse straight-forward. It is the express aim of the Environment Agency to “encourage the appropriate remediation of brownfield land” and “reduce the amount of material that is sent for disposal”¹. In 2009, a Code of Practice initiative for the development industry, known as the “DoW-CoP”, was published and instigated by CL:AIRE in cooperation with the Environment Agency and many other stakeholders^{2,3}.

The DoW-CoP, which applies in England and Wales only, sets out good practice for the development industry to use when assessing whether excavated materials are classified as waste or not. It confirms a site-specific, risk-based approach to allow the determination of when materials can be managed as a non-waste for a particular use. Further it describes an auditable system to demonstrate that this code of practice has been adhered to. If materials are dealt with in accordance with the DoW-CoP, the Environment Agency & Natural Resources Wales (EA/NRW) considers that those materials are unlikely to be waste if they are used for the purpose of land development. This may be because the materials were never discarded in the first place, or because they have been submitted to a recovery operation that has been completed successfully so that they have ceased to be waste. It is therefore an important means of facilitating the reuse of materials and prevention of their diversion to landfill.

While sustainability is always a site- and project-specific assessment, there are a number of important potential sustainability gains from the diversion of soils and related materials from landfill⁴. These can include:

- substituting (treated/checked) recycled materials for virgin resources, in particular by bringing soils back into constructive use whilst minimising the use of quarried virgin materials
- reduction of transportation of bulk materials
- substantial carbon benefits from avoided extraction of virgin materials and transport.

Moreover, the approach provides substantial cost savings in comparison to traditional disposal alternatives. There are also many further benefits, in particular speed and efficiency compared with working via a Standard Rules Environmental Permit or Bespoke Environmental Permit. It is also salient to note that, where excavated materials have been improperly reapplied to sites, they may be considered an illegal deposit, and – from April 2018 – attract retrospective landfill taxes at the standard rate of more than £80/tonne. The DoW-CoP is designed to ensure appropriate reuse of excavated materials.

How Does It Work?

THERE ARE three broad stages shown in Figure 1. A “qualified person” reviews the relevant project documents to confirm that steps one and two have been taken, and provides a declaration to CL:AIRE prior to the use or dispatch of materials (see below).

For the excavated material to be managed as a resource rather than a waste it must meet four stringent criteria:

- protection of human health and protection of the environment
- suitability for use (in all respects)
- certainty of use
- that material should only be used in the quantities necessary for that use, and no more. ▶▶

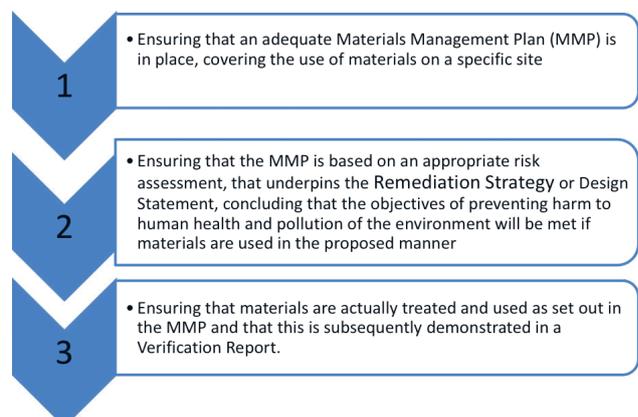


Figure 1: DOW-COP Process



Left: debris on a former gasworks site; right: output from a soil washing plant. Credit: Steve Wallace; use Courtesy of National Grid Property

A verification report must be produced which provides an audit trail to show that materials and wastes have gone to the correct destination. The report needs to show how the use of materials links with the objectives defined in the remediation strategy or design statement, such that they have been furthered or fully met.

What is a “materials management plan”?

A “materials management plan” (MMP) marshals the evidence to show the material being excavated is not a waste. It is site- and project-specific so the MMP must also include information about the site and the application, including how the excavated material is to be treated and what it is to be used for.

It also collates the contact information for all the key stakeholders, for example the regulator, the service providers, the site manager, etc. The MMP must also provide evidence that excavated materials really will be used and a verifiable tracking system that will assure this. It confirms the need for a robust contingency plan, which all parties understand and agree on. Finally, it collates all the key documentation needed as evidence.

What is a “qualified person”?

A “qualified person” (QP) reviews the evidence relating to the proposed use of materials on a specific site and, if satisfied, will sign a declaration and submit it to CL:AIRE which will issue a receipt if all required information is present. This receipt allows the project to begin using the MMP and serves as a notification to the EA/NRW that a site is to be developed using the DoW-CoP. The copy sent to the person commissioning the QP is reminded of the need to follow an MMP and provide a verification report. QPs are chartered members of a relevant professional institute, who have experience of brownfield management, completed the appropriate training and registered with CL:AIRE.

There are four different scenarios for materials reuse covered by the code of practice summarised below. CL:AIRE’s web page for the DoW-CoP is at www.claire.co.uk/projects-and-initiatives/dow-cop and contains more detailed information and examples including two in depth case studies⁴.

Direct transfer

This is the most common scenario where demonstrably clean naturally occurring soils and mineral materials (ie, uncontaminated sites) can be directly transferred from one site to another development site for use, without the need for waste legislation being applied (ie, the receiving development site does not require an Environmental Permit or Waste Exemption). Such materials must be capable of direct use without the need for processing or treatment in line with the four criteria listed previously.

Use on the site of origin

The site of origin is a single readily identifiable site such as:

- the area covered by a specified planning permission
- the area covered by a single detailed remediation strategy
- the area covered by a single detailed design statement, eg, pipeline route, proposed road
- the area covered by an agreed deployment form from a relevant environmental permit.

If suitable for use “as is”, excavated materials can be used directly within the development, or reuse following appropriate on-site treatment (the on-site treatment should be progressed under an appropriate Environmental Permit or Waste Exemption).

Cluster projects

Non-clean, naturally occurring materials can be managed via the cluster approach, which links a number of sites in relative close proximity. It allows for sharing of a permit and temporary decontamination/treatment facility located on one of the sites (the hub).

Excavated materials from donor sites are sent for treatment at the Hub site as waste and, upon successful treatment are returned, used at the hub site or transferred on to a further receiver site as non-waste.

Fixed (permanent) soil treatment facilities

A fixed soil treatment facility is like a hub site within a defined cluster project. Operators of soil treatment facilities may not always have a pre-determined plan for where treated wastes will be used. Excavated wastes are taken to

a fixed soil treatment facility, under the prevailing waste legislation, for treatment. Materials are tracked from the donor site, through acceptance, treatment (if required) and subsequent stockpiles. Potential receiving development site operators need to provide the facility operators with clear suitable for use criteria. The soil treatment facility then approaches the EA to gain approval to transfer and use its treated materials.

A review carried out for CL:AIRE and the EA over projects in the South East of England found major sustainability benefits from three case study projects enabled by the DoW-CoP compared with excavation and removal to landfill. This preliminary assessment found large carbon balance benefits, significant fuel savings, and a substantial reduction in lorry movements with consequent benefits from reduced road traffic demand.⁵

Together these practical, financial and sustainability arguments make it good sense to use the DoW-CoP protocol. Within the UK there have been over 3,500 declarations since its launch in 2009, resulting in the reuse of over 54,000,000m³ the equivalent of 14 Wembley stadiums full of soil. It is a major success story and is seen by several other countries as a model for development, including Canada, and a number of states in the US. ■

References

1. www.gov.uk/government/collections/groundwater-protection
2. CL:AIRE. 2011. The Definition of Waste: Development

Industry Code of Practice. ISBN 978-1-905046-23-2. CL:AIRE, London. www.claire.co.uk/projects-and-initiatives/dow-cop

3. CL:AIRE 2001. The Definition of Waste: Development Industry Code of Practice. Guidance Bulletin GB3, CL:AIRE, London. <https://claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/112-guidance-bulletin-3-dowcop>
4. <https://claire.co.uk/component/phocadownload/category/3-case-study-bulletins?download=226:casestudy-bulletin-09>; and <https://www.claire.co.uk/component/phocadownload/category/3-case-study-bulletins?download=368:csb-11>
5. Report on use of the DOW-COP in London and the South East, 2013, www.claire.co.uk/component/phocadownload/category/8-initiatives?download=447:definition-of-waste-se-full-report

Paul has more than 20 years of experience in soil science and biology; contaminated land and brownfields, waste treatment and risk management, particularly biological treatment technologies, sustainability assessment, soil and water issues, He is managing director of r3 and co-chair of the Steering Group of the Sustainable Remediation Forum in the UK.

Nicholas has over 15 years professional experience in both contaminated land consultancy and remediation contracting. At CL:AIRE he is the national lead manager of The Definition of Waste: Development Industry Code of Practice and jointly delivers the CL:AIRE training programme for the initiative.



CIWM

Journal Online

Bringing you the latest news in resources & waste

- daily news
- exclusive articles from key figures
- video content
- digital archive of CIWM Journals (CIWM members only)

CIWM Journal Online is a free-to-use online resource for: best practice; case studies; reports; innovation; new technologies; events & news from within CIWM and across the resources industry.

Visit today...

www.ciwm-journal.co.uk

