

Designer Briefing

‘Safe digging is not enough’

13th October 2016

Agenda

- Introduction
- 'Safe digging is not enough'?
- Real example
- Your take away
- Have you been listening?

Introduction

- In one of our joint venture working arrangements we had an HV cable strike
- Nobody was injured
- Detailed investigation
- Sharing learning (design)

'Safe digging is not enough'

- What does this mean?
- Where does this phrase come from?
- Who is USAG?
- National membership of 180+ asset owners, clients and contractors inc:



Contractors:

Balfour Beatty, Morrison Utilities, Amey, Skanska, Clancy Docwra, Murphy, BAM, Lanes, Careys, McNicholas, Mace, Morgan Sindall, Cappagh, Kier, Mitie, Instalcom, etc

Service providers:

Linesearch, Atkins, Sumo, Cable tracing services, Jacobs, HSS Training, Arup etc

USAG

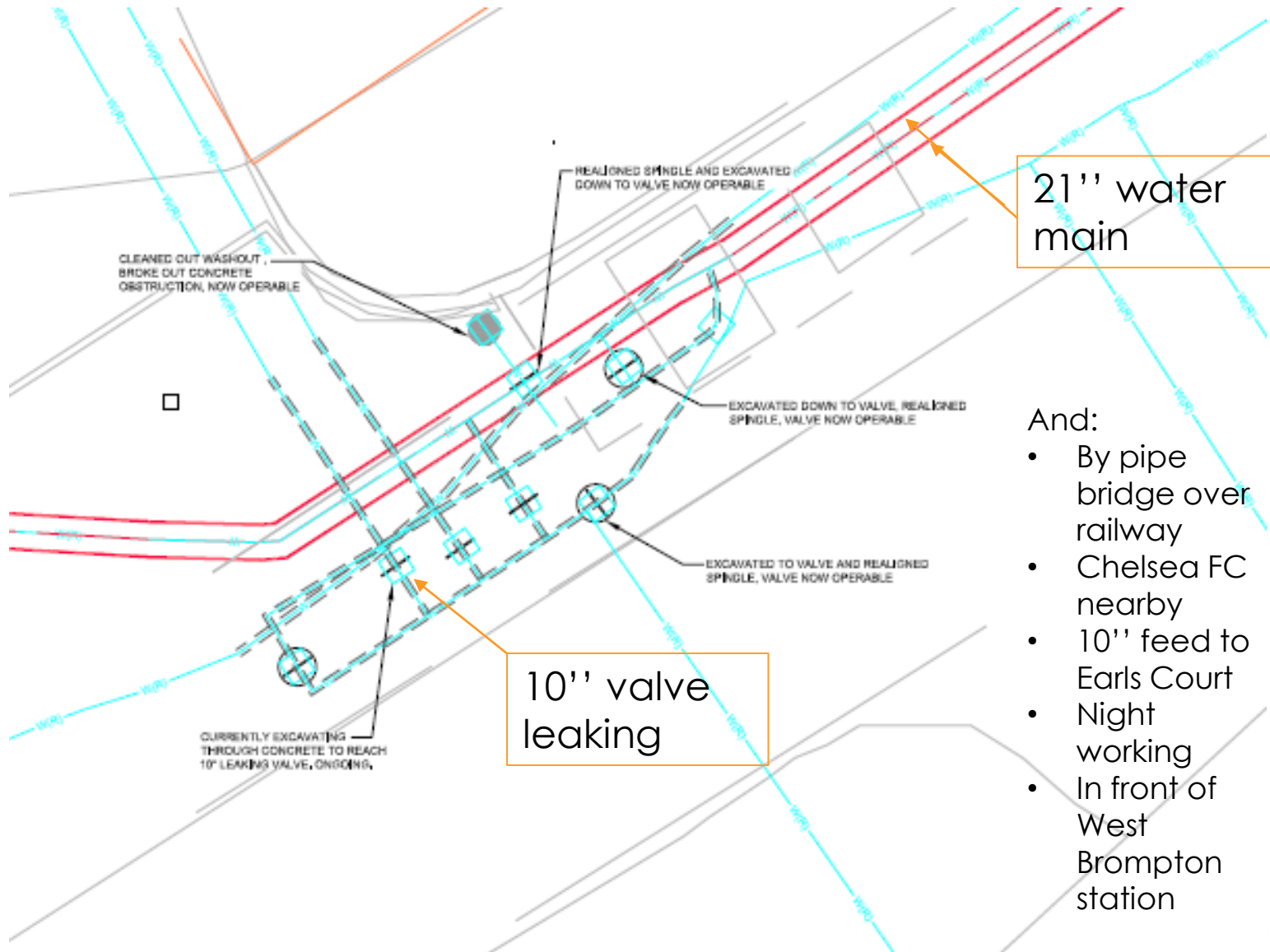
- Charter

- People aware of roles and responsibilities
- Companies competent and capable
- One person in team competent in use of CAT to full potential
- Excavations in accordance with SSOW
- Equipment inspected, calibrated, tested
- Latest utility asset drawings available and work is inspected and audited
- Sufficient investigation and share learning

Real example

- An HV cable was struck with a hand held pneumatic breaker
- There was a small pop and flash but no one was injured
- The operative was breaking our concrete on edge of excavation and strike 350mm below ground level
- The road construction was tarmac over concrete extending down 600mm
- A GPR survey was completed just before construction commenced

Real example



And:

- By pipe bridge over railway
- Chelsea FC nearby
- 10" feed to Earls Court
- Night working
- In front of West Brompton station

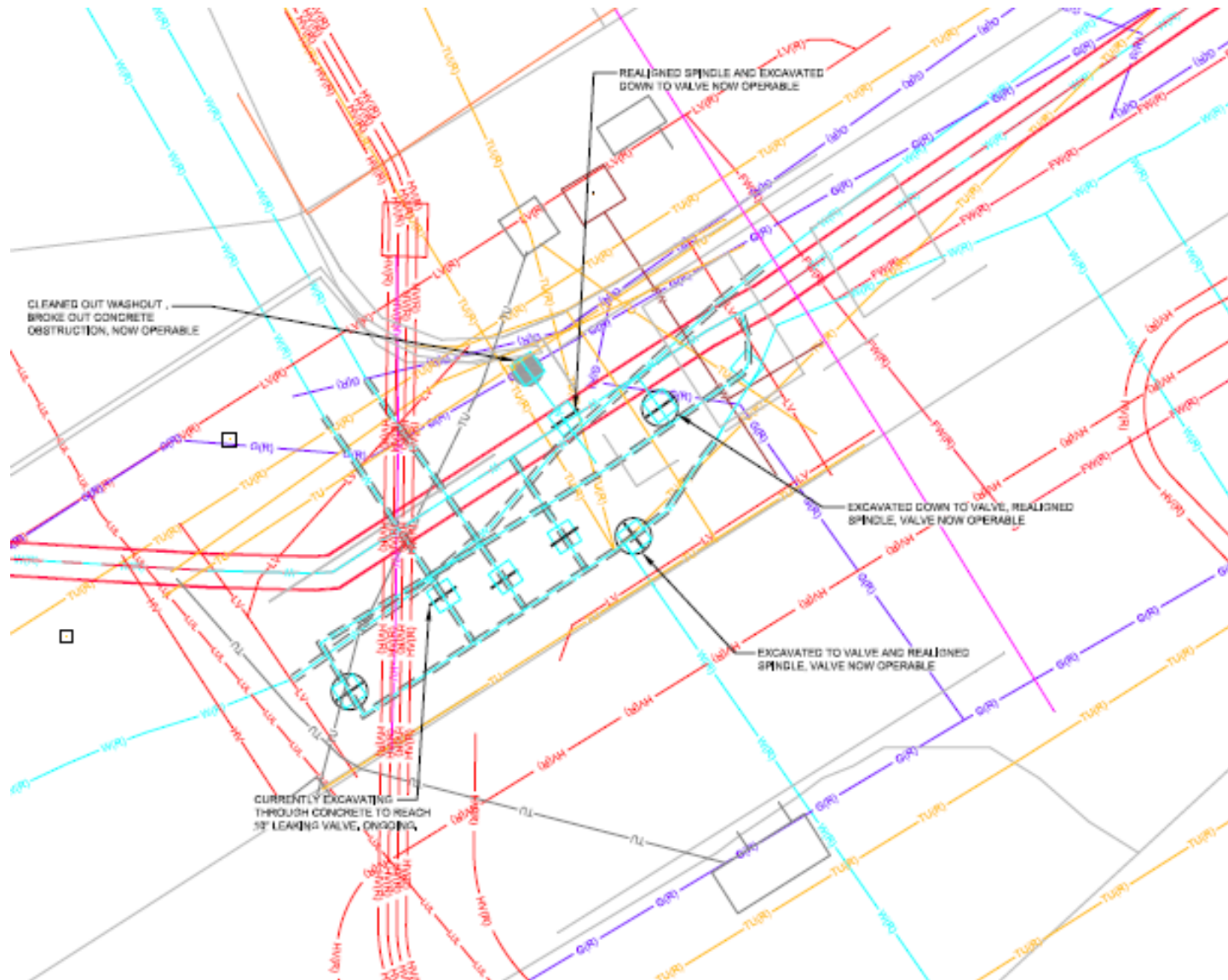


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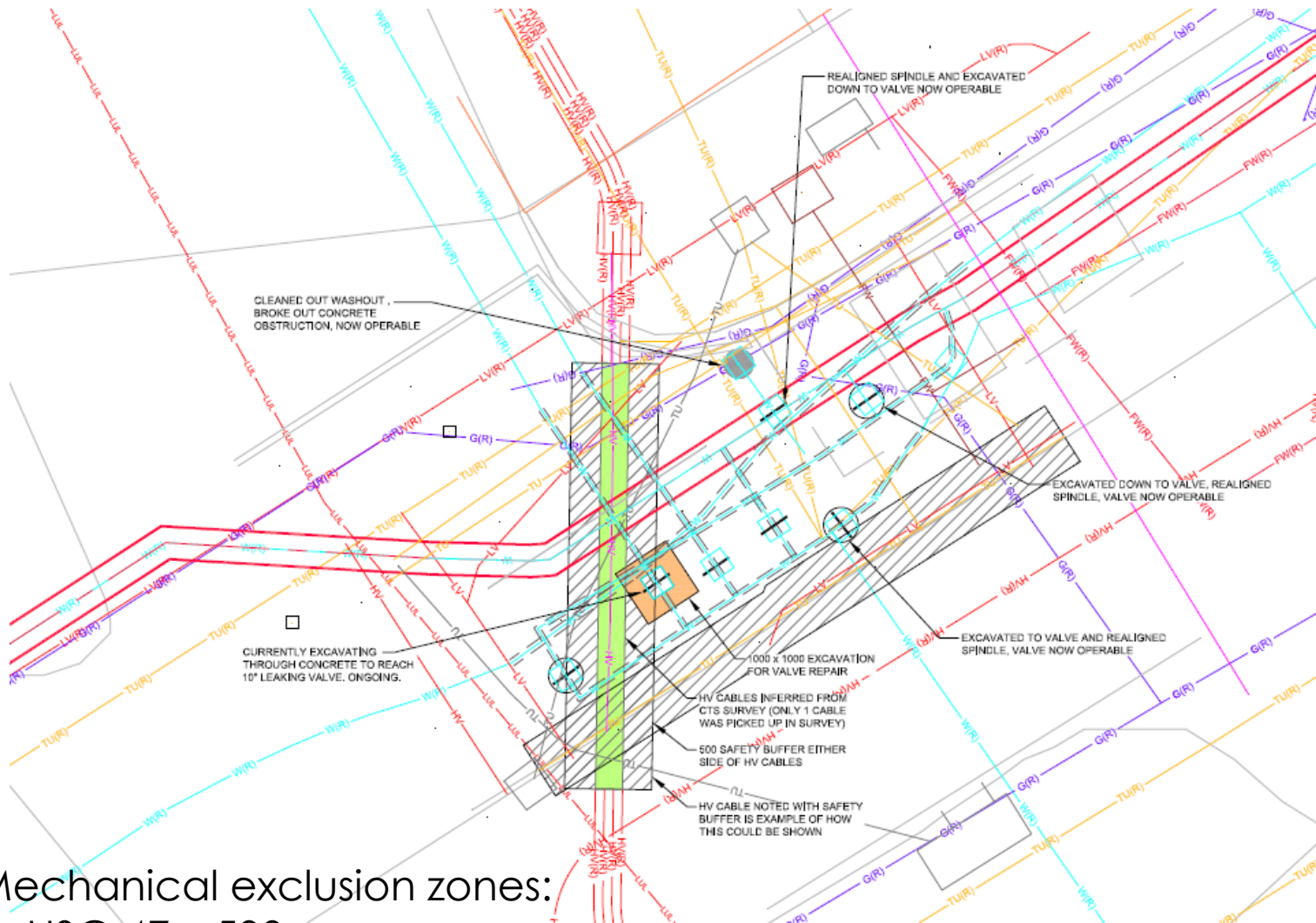
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Real example



Plan showing
services from
GPR/CAT
survey and
records (r)

Real example

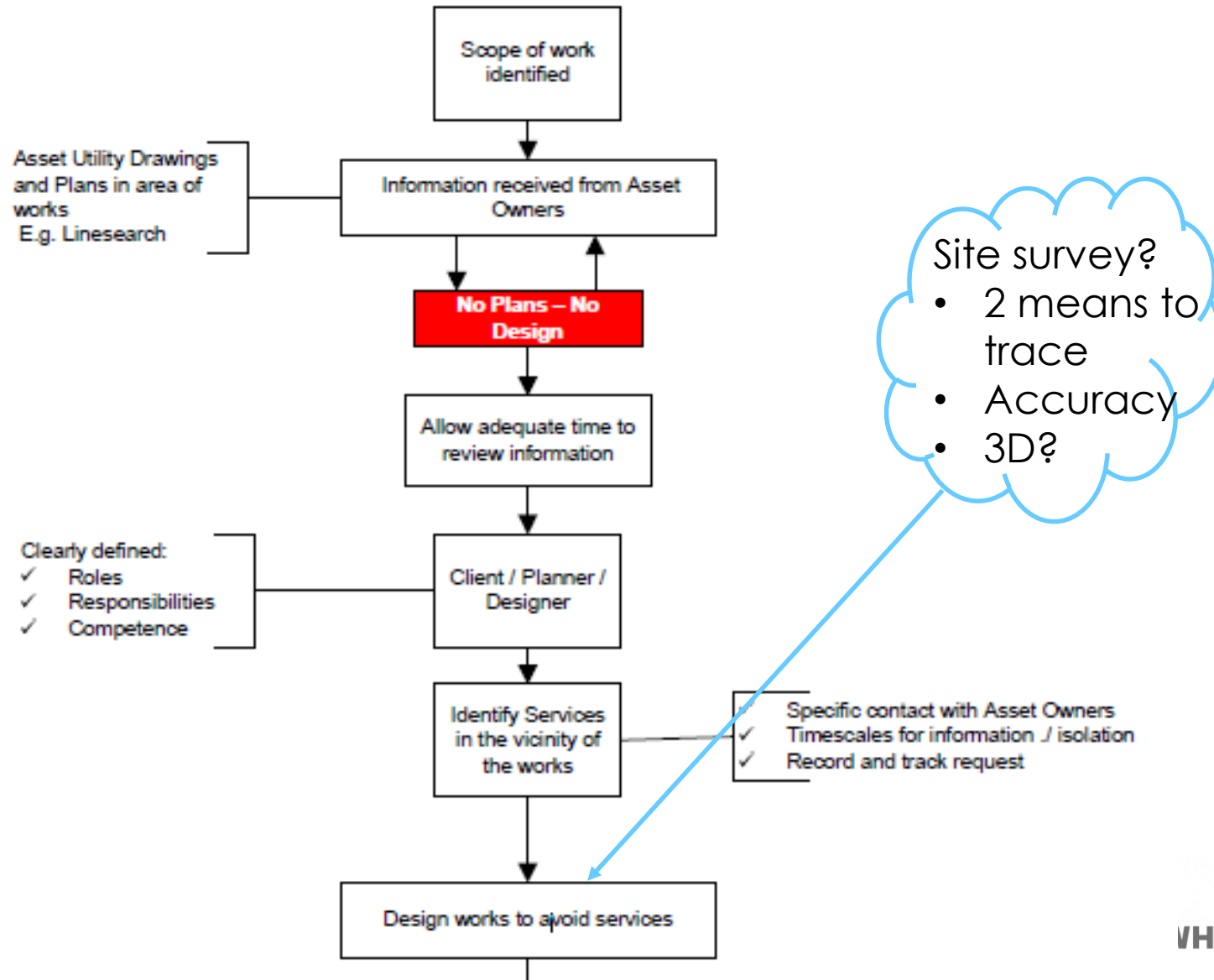


Mechanical exclusion zones:

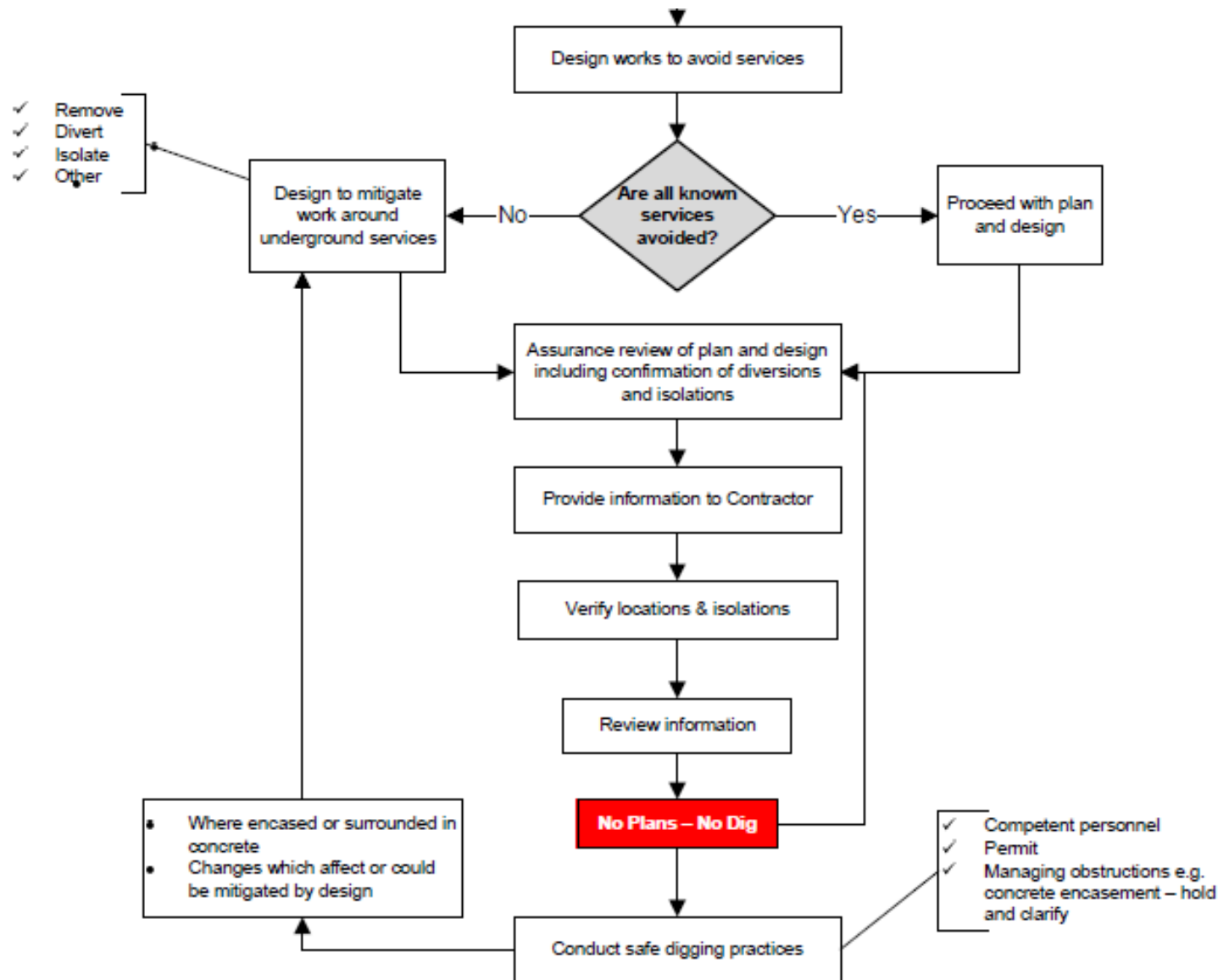
- HSG 47 – 500mm
- always check any JV /Client standards

USAG

- Design and planning process to avoid underground services



USAG



Your takeaway

- Review the hand-out and ensure you/team meet the role and can confirm 'yes' to the 11 questions

Best Practice in Avoiding Underground Services

Client, Designer and Contractor Opportunities, Responsibilities and Checklists

Designers (including Planners) – Opportunities and Responsibilities

Who is a designer?

"designer" means any person (including a client, contractor or other person referred to in these Regulations) who in the course or furtherance of a business—
(a) prepares or modifies a design; or
(b) arranges for or instructs any person under his control to do so,
relating to a structure or to a product or mechanical or electrical system intended for a particular structure, and a person is deemed to prepare a design where a design is prepared by a person under his control;

(CDM Regulations 2007)

Designers include those who plan works or select materials etc.

Designer: person or organisation carrying out design, of whatever discipline, including preparation of specifications and selection of plant or materials. A designer may also be a client or contractor.

Planner: person or organisation planning what work is to be carried out, scheduling, co-ordinating or sequencing. A planner may also decide what method of work is to be adopted, arrange for diversions, isolations and de-pressurisation of services. A planner may be a client, designer or contractor.

What can a designer/planner add?

Designers (and planners) are in a unique position to reduce the risks that arise during construction and associated work. Good design will eliminate, substitute or as a minimum reduce and advise on risks that have not been mitigated. A good designer will coordinate and communicate with their construction colleagues regularly to identify the best, safest design and will provide clear information on risks identified during design and how they were mitigated. Good design prevents injuries.

What are designers'/planners' responsibilities?

Designers are responsible for ensuring that clients are aware of their duties, seek to eliminate hazards and reduce risks in their designs, to co-operate with others and to provide information about significant risks. They are required to avoid foreseeable risks as far as is reasonably practicable, following the hierarchy of risk management.

The following checklist provides a simple guide to help designers / planners review whether they are following best practice.

If it is not possible to confirm that an item has been carried out, this should provide a prompt to identify what further action should be taken as appropriate.

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Best Practice in Avoiding Underground Services

Designers / Planners Checklist (Items 1-11)

- 1 You have a clear scope of works that includes requirements for the management of work near to underground services ☐
- 2 You understand the responsibilities for the coordination and management of the information associated with avoiding underground services. ☐
- 3 You are competent to understand the risks associated with damaging underground services and how to eliminate or reduce those risks through design ☐
- 4 You understand the process for obtaining information and advice from service owners and have obtained all the necessary and available information to inform your design ☐
- 5 You have contacted service owners at concept / pre-design stage to identify whether service isolation or diversion are reasonable and have documented these contacts and discussions ☐
- 6 The information that you have from the service owners is in the best available format e.g. in colour, including cross sections where applicable, less than three months in age and where reasonable include local knowledge ☐
- 7 You have taken reasonable steps to design to avoid service locations. This should include considering routings, diversions, pre-start removal of services and how works are to be sequenced ☐
- 8 Your design takes account of 'protection' safety / plant operating proximity zones' for safe excavation around underground services where this cannot be avoided within your design ☐
- 9 You have captured and shared information, to identify service clashes and potential diversions, using BIM or other appropriate techniques. ☐
- 10 You have identified the underground services coordinator and have an effective working relationship, undertake regular reviews and have included this function within your design review process. ☐
- 11 You have a clear communication process in place for the provision of information from you to the construction team, effective hand over meetings are in place and a clear and robust process is in place to capture changes including design changes. ☐

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Were you listening?

- What does it mean 'safe digging is not enough'?
- What does USAG stand for?
- What is the size of the mechanical exclusion zone by electricity cables and gas mains?
- How will you share utility information with your construction partner?

Questions?