




# Best Practice in Avoiding Underground Services

Responsibilities Process Map				
Action	Client (as defined by CDM)	Designer / Planner (as defined by CDM)	Contractor (as defined by CDM)	References
Clearly scope works	▼			
Ensure clarity of known areas of service interaction		▼		
Define requirement for management of work near underground services	▼	▼		BPAUS 04 - Client, Designer and Contractor Opportunities, Responsibilities and Checklists
Defined communication channels inc Designers and Supply Chain	▼	▼	▼	
Ensure clear understanding of communication internally and with Clients, Designer, Planners and Contractors	▼	▼	▼	 <a href="http://www.hse.gov.uk/construction/cdm/acop.htm">http://www.hse.gov.uk/construction/cdm/acop.htm</a>
Defined change management process	▼	▼	▼	BPAUS 04 - Client, Designer and Contractor Opportunities, Responsibilities and Checklists
Understand responsibilities for coordination and management of underground services information.		▼	▼	
Follow change management process		▼	▼	<a href="http://www.hse.gov.uk/construction/cdm/designers.htm">www.hse.gov.uk/construction/cdm/designers.htm</a>
Location of services included in scope and price	▼			
Tender submissions include management of underground services	▼			
Encourage Supply Chain to sign up to USAG charter	▼		▼	
Designers demonstrably competent in underground services aspects	▼	▼		BPAUS 05 – Training Framework for Designers & Planners
Eliminate, substitute or reduce risk in design		▼		 <a href="http://www.hse.gov.uk/construction/cdm/designers.htm">www.hse.gov.uk/construction/cdm/designers.htm</a>



Review or check



Isolation


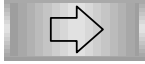
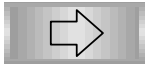
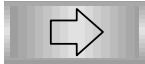



Right click to follow web link

Work sponsored by



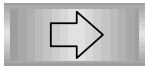
# Best Practice in Avoiding Underground Services

Responsibilities Process Map				
Action	Client (as defined by CDM)	Designer / Planner (as defined by CDM)	Contractor (as defined by CDM)	References
Establish clear communication with Asset Owners for contact, help and advice, inc. local knowledge	▼			 <a href="http://www.energynetworks.org">www.energynetworks.org</a> – Gas Distribution
Establish a clear understanding of communication process with Asset Owners		▼		 <a href="http://www.energynetworks.org">www.energynetworks.org</a> – Electricity Distribution
Define minimum acceptable standards for service information provision inc. colour and cross sections	▼			
Do not accept services information more than 3 months old	▼	▼	▼	
Allow sufficient time and resources for positive service location	▼	▼	▼	
Obtain all relevant and available underground services information (in conjunction with Designers)	▼	▼		
Effective information communication process (inc BIM protocols) for right information to right people at right time.	▼	▼		 <a href="http://www.bimtaskgroup.org">www.bimtaskgroup.org</a>
Service Information Coordinator appointed to each project	▼	▼		
Designated Service Information Co-ordinator identified and included in design reviews		▼		
<b>HOLD POINT</b>				
Contact Asset Owner at concept stage to identify the possibility of diversion or isolation or services		▼		 <a href="http://www.ukpowernetworks.co.uk">www.ukpowernetworks.co.uk</a>  <a href="http://www.nationalgrid.com">www.nationalgrid.com</a>

Work sponsored by

















# Best Practice in Avoiding Underground Services

Responsibilities Process Map				
Action	Client <small>(as indicated in CDM)</small>	Designer / Planner <small>(as indicated in CDM)</small>	Contractor <small>(as indicated in CDM)</small>	References
Document and track all contacts with Asset Owners	▼	▼		
Review design to verify that all reasonable measures have been taken to avoid service locations		▼		CIRIA Report 662
Demonstrate that routings, diversions, pre-start removal, isolations and sequencing have been considered.		▼		
Design takes into account "protection zones" for working in proximity of services which cannot be avoided		▼		BPAUS 07 – Proximity Zones for Mechanical Equipment
BIM used to capture and share information, identify service clashes and potential diversions.		▼	▼	 <a href="http://www.bimtaskgroup.org">www.bimtaskgroup.org</a>
Clear communication processes in use to communicate appropriate and sufficient information to Contractors		▼	▼	
Handover of information with opportunity for review and explanation		▼		
Ensure the provided information is complete			▼	
<b>HOLD POINT</b>				
Clear and robust change management process is understood		▼	▼	
Clearly defined and communicated roles and responsibilities for management of underground services risks			▼	BPAUS 04 - Client, Designer and Contractor Opportunities, Responsibilities and Checklists
Clearly defined communication routes to Designers, Planners, Clients and Asset Owners for communication, information, advice and support.			▼	

Work sponsored by




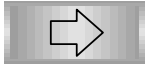
# Best Practice in Avoiding Underground Services

Responsibilities Process Map				
Action	Client (as defined by CDM)	Designer / Planner (as defined by CDM)	Contractor (as indicated in CDM)	References
Adequate resources for management of risks associated with underground services is included in tender.				
Competence of supply chain in relation to management of risks associated with underground services including personal competence of workforce.				 <a href="http://www.utilitystrikeavoidancegroup.org">www.utilitystrikeavoidancegroup.org</a>
Encourage supply chain to sign up to USAG charter and the elements subjected to monitoring and audit.				 <a href="http://www.utilitystrikeavoidancegroup.org">www.utilitystrikeavoidancegroup.org</a>
Allow sufficient time and resources for positive service location throughout supply chain				
Communication and effective working relationship established with underground services coordinator				
Change management process understood and applied to changes in design, site conditions, sequencing etc.				
Integration with designers to assist in risk elimination.				
Challenge the design where expectations of elimination, substitution or reduction of risk by design fall short of contractors' expectation.				

Work sponsored by



# Best Practice in Avoiding Underground Services

Responsibilities Process Map				
Action	Client <small>(as defined by CDM)</small>	Designer / Planner <small>(as defined by CDM)</small>	Contractor <small>(as indicated in CDM)</small>	References
<b>HOLD POINT</b>				
Confirmation that all services requiring diversion have been diverted and there are no residual risks (pot ends etc.)			▼	
Confirmation that any agreed isolations have been carried out			▼	
Comply with any other working restrictions identified by the Asset Owner			▼	
<b>HOLD POINT</b>				
Issue and brief Permit			▼	BPAUS 06- Permits Use & Content
<b>COMMENCE WORK AROUND UNDERGROUND SERVICE</b>				
Positive identification of all underground services which could potentially be disturbed.			▼	 <a href="http://www.national-one-call.co.uk">www.national-one-call.co.uk</a>
Workforce understand that if they are in any doubt that a service is live, or that safe working practices are not taking place they must STOP and obtain instruction.			▼	 <a href="https://linsearch.org/">https://linsearch.org/</a>
Follow Safe Systems of Work			▼	HSG 47 – Avoiding Danger from Underground Services
Where any service is encased / surrounded in concrete work is to stop until a safe system of work is identified.			▼	BPAUS 08/09 – Services Encased / Surrounded in Concrete
Changes which may affect or could be mitigated by design to be referred to the Designer			▼	BPAUS 02 – Design & Planning Process to Avoid Underground Services

Work sponsored by

