

## West ByFleet – MEP Designers Risk Assessment Updated 19/03/2024

### Existing Services

**Key: C – Client, PD – Principal Designer, PC – Principal Contractor, MWL – MWL Consulting Engineers**

Designers Risk Assessments – Existing Services							
Item no.	Risk Description	Drawing / Spec Ref.	MWL Action Required / Reason for Not Adopting Alternative Construction	Date MWL Action Completed	Action Required by Others	Whom Responsible (See Key)	Notes
<b>Mechanical Services</b>							
1	Unknown existing foul and surface water services within the construction site		MW to obtain foul and surface water maps for existing utilities drainage. MW to advise client of the need for a services trace to establish the exact locations on site and to identify any private drainage systems which may be discharging across the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	
2	Unknown existing mains water services within the construction site		MW to obtain water service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of water services pipework including any private water services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	

3	Unknown existing gas services within the construction site		MW to obtain gas service maps for existing services. MW to identify any locations of pressure reducing stations which may restrict the building footprint. MW to advise client of the need for a services trace to establish the exact locations of gas pipework including any private gas services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	
<b>Electrical Services</b>							
1	Unknown existing EHV electricity distribution cables and pylons within the construction site		MW to obtain EHV service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of EHV service cables which may be crossing the site and require retaining/diverting. MW to advise on national grid standards. (Note this is outside MW field of expertise and only reference to National Grid standards will be provided.)		Client to arrange existing services trace. Where necessary, principal designer to liaise with National Grid to ensure the constraints imposed to the building and build sequence are considered during the construction of the building. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	
2	Unknown existing high Voltage electricity cables within the construction site		MW to obtain HV service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of water services pipework including any private HV services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	

3	Unknown existing low Voltage distribution cables within the construction site		MW to obtain LV service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of LV pipework including any private water services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	
4	Unknown existing telecommunication cables within the construction site		MW to obtain telecommunication service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of water services pipework including any private telecommunication services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	
5	Unknown existing Virgin Media cables within the construction site		MW to obtain Virgin Media service maps for existing services. MW to advise client of the need for a services trace to establish the exact locations of water services pipework including any Virgin Media services which may be crossing the site and require retaining/diverting.		Client to arrange existing services trace. Principal Designer to ensure information is included in the pre-tender information. Information to be reviewed by Principal Contractor prior to starting work and utilise to establish safe systems of work. Principal contractor.	C, PD, PC	

## New Mechanical & Electrical Services

**Key: C – Client, PD – Principal Designer, PC – Principal Contractor, MWL – MWL Consulting Engineers**

Designers Risk Assessments – New Services							
Item no.	Risk Description	Drawing / Spec Ref.	MWL Action Required / Reason for Not Adopting Alternative Construction	Date MWL Action Completed	Action Required by Others	Whom Responsible (See Key)	Notes
<b>General</b>							
1	Risk of injury when maintaining mechanical and electrical plant throughout the site, including roof plant areas.		MWL to design all plant areas with adequate access to minimise the risk of injury during maintenance.		PD to detail plant areas in line with the requirements detailed in the outline design report.	PD	
					Maintenance of services to be completed only by trained, competent personnel.	CL	
2	Risk of injury when manual handling of large or heavy equipment is required.		All large items of mechanical or electrical equipment to be sectional/demountable or lightweight in construction, or with lifting eyes.		Permits to work and supervision of site maintenance / delivery / installation of single items of equipment greater than 40kg in weight.	PC	
<b>Mechanical Services</b>							
1	Handling of hazardous chemicals.		Chemicals required for water treatment.		Water systems to be treated by a trained water treatment specialist. Chemicals to be stored in appropriately labelled containers to manufacturers' recommendations.	C, CL	

Designers Risk Assessments – New Services							
Item no.	Risk Description	Drawing / Spec Ref.	MWL Action Required / Reason for Not Adopting Alternative Construction	Date MWL Action Completed	Action Required by Others	Whom Responsible (See Key)	Notes
2	Danger due to human exposure to hazardous surfaces.		<p>MW to design mechanical services so that no hazardous protrusions or trip hazards occur.</p> <p>Potentially hazardous low level services to be kept to a minimum.</p>		<p>PC to ensure that exposed mechanical distribution services are insulated with CFC/HCFC free mineral wool insulation.</p> <p>Sharp edges on exposed surfaces (e.g. sockets and conduit) to be removed.</p> <p>Projecting parts in plant rooms to be clear of general walkways where possible.</p>	PC	
					<p>Where low-level services in plant rooms cannot be avoided they should be clearly seen (vivid colours) and building maintenance to take care when carrying out maintenance.</p>	PC and CL	
3	Potential risk of working with pressurised plant.		Pressurised plant required due to nature of project.		Installation, commissioning and maintenance of all pressurised systems to be completed by trained and competent personnel.	PC and CL	
4	Live gas services		Identify requirements and scope of works.		Programme to reduce risk. Ensure that all gas services are isolated and disconnected at meter before commencement of any works on site are carried out by qualified personnel.	PC	

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5	Access for plant room maintenance	RIBA Stage 4 Spec and drawings	Provide co-ordinated plant area layouts	Ongoing	Liaise with all contractors to ensure that all items installed have required access space and items are installed in the correct sequence.	PC	

6	Manual handling of installed plant		Specify equipment with long life and allow space for remove and route to delivery/collection point. All large items of mechanical equipment to be sectional/demountable or lightweight in construction.		Where necessary provide temporary ramps etc. to remove plant items.	PC	
7	Risk of injury when maintaining mechanical and electrical plant throughout the site, including roof plant areas.		MW to design all plant areas with adequate access to minimise the risk of injury during maintenance.		Maintenance of services to be completed only by trained, competent personnel.	PC	
8	Risk of injury when manual handling of large or heavy equipment is required.		Identify crane requirements.		Contractor to identify all such equipment and to use appropriate machinery where necessary to facilitate movement of equipment.	PC	

9	Risk of dust collection in bin stores/refuse areas.		Ventilation system designed for bin stores/ refuse areas.		Contractor to fit filter systems on the internal extract ventilation grilles.	PC	
<b>Electrical Services</b>							
1	Public access to live electrical equipment during construction.		Identify requirements and scope of works		Hoarding / temporary protection to be provided to any equipment which would otherwise be within public reach.	PC	
2	Access to live electrical equipment.		Design of electrical risers/locations generally to prevent public accessibility.		Establish work permit system and employ qualified and competent engineers.	DT	
3	Risk of personal injury – Working at High Level During the Installation of Luminaries, Fire Alarm Equipment and the Lightning Protection System		Identify requirement and scope of works to provide safe access to electrical services.		Provision of scaffolding, mobile access platforms and safety harnesses where required.	PC	
4	Handling and maintenance of large electrical equipment panels, lift cars, motors, etc. - risk of injury.		All large items of electrical equipment designed to be sectional / demountable or lightweight in construction, or with lifting eyes.		Permits to work and supervision of site maintenance / delivery / installation of single items of equipment greater than 40kg in weight.	PC	

5	Sub-Station and LV switchgear - access restricted within confined areas along with required presence of temporary electrical supplies - danger of electric shock.		Notification of danger and instruction to obtain escorted switchgear access with permits to work following prior arrangement with PM.		Permits to work.	PC	
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